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Indexes for the previous 6 months will be found in the First number of July and the First number of January.

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BRIEFLY TOLD.

A MAGAZINE ARTICLE WORTH DISSEMINATING AMONGST GAS CONSUMERS.—Mr. Lucien H. Tyng contributed to the August issue of "Moody's Magazine" a very readable and logical article on "Private versus Public Operation of Gas Companies." The following paragraph from it is of an order well calculated for awakening thought in the ordinary mind as to the actual business practices of those in charge of 9 out of 10 operating gas companies:

"That often the gas business is apparently a natural monopoly in a given community does not disprove the foregoing reasoning. The gas companies that are making the most money to-day are not those that are taking advantage of their franchise rights to exact high rates. They are the ones who by their own effort in educating the people are so increasing the per capita consumption of gas as to make a lower rate a business possibility, and their intelligent attention to operating cost and investment of large amounts of new capital when needed are able to reduce the cost of making gas sufficiently to secure a greater total profit out of selling a large amount of gas at a low rate than was before received when rates were higher and business less."

CURRENT COMMENT.—

MR. W. K. STAFFORD, who formerly represented the Abendroth Brothers' specialties in the New England States, has identified himself with the Fred. K. Wells Company, of this city. Mr. Stafford will cover for the latter concern the territory in which he heretofore travelled for the former.

THE Oakland (Cal.) Gas Light and Heating Company has arranged with Messrs. R. D. Wood & Co., of Philadelphia, for the construction of a 4-lift gasholder, to rest in a steel tank, to be erected corner of 1st and Grove streets, in Oakland. This holder is to replace the small one recently destroyed by an uncommon electric wire transmission contact.

THE next meeting of the Illuminating Engineering Society (New York Section) will be held in the building of the United Engineering Societies, 33 West 39th street, at 8:15 P.M., the 14th inst. The feature of the session will be a lecture on "Pioneer Electric Lighting," by Mr. W. S. Andrews, of Schenectady, N. Y. Respecting this lecture, Secretary Millar promises that it will have much of interest in connection with the early work of Mr. Edison on the incandescent lamp, and also in connection with the operation of the first central stations. The meeting will be attended by a number of those who were connected with the early development work of electric lighting.

MR. S. E. JOHNSTON, Editor of the publications of the American Society of Mechanical Engineers, writing to us under date of the 1st inst., informed us that hereafter the reference libraries of the American Institute of Electrical Engineers, the American Society of Mechanical Engineers and the American Institute of Mining Engineers, 29 West 39th street, New York, will be open evenings until 9 o'clock on all week days except public holidays. These libraries, constituting prac-

LIBRARY OF CONGRESS NOV 11 1907 SMITHSONIAN DEPOSIT.

tically one library of engineering, situated near the New York Library, in the new headquarters of the Engineering Societies, are available to members of the above Societies, engineers and the public generally, subject to proper regulations. Strangers are requested to bring letters of introduction from members or to secure cards from the Secretaries of the respective Societies. This is the true sort of brotherhood, and it should be well appreciated and well used, especially by the young ones who, having chosen engineering as their life's work, are thus afforded opportunity above price that was unfortunately not the part of their predecessors, say in the days when that prince of statistical digestors and formulators, the immortal Haswell, was in his earlier years.

"THAT clever, observing and sedate gentleman, Mr. C. A. Learned, whose superintendency of the affairs of the Meriden (Conn.) Gas Light Company has brought with it peace and plenty to that corporation, seems to have again convinced his Directors that the house in order is the house successful. In any event, the announcement has just been made that the Company had purchased a plot of land on Colony street, adjoining the property of Swift & Co.—in fact, it was purchased from that concern. The location is in the very best part of the business heart of the city of Meriden; and I take it for granted that all of your Eastern readers quite well know that Meriden is a very beautiful, as well as a very busy, center of population. Well, between the handsome new Federal building, now in course of construction, and the depot of the New York, New Haven and Hartford Railroad, in the near future, will rest a handsome 2-story structure of brick and stone, planned in all respects for the best conduct of the office business of the Company. It might be said in closing that directly over the way stands a beautiful church, thus guaranteeing peacefulness, which is the sequel of patience, the cultivation of which is so essential to the way of a lighting company's complaint men. Truly does the Meriden Company keep up with the pace set by Superintendent Learned. May his shadow never grow less!—T. C."

MR. GEORGE M. KARSNER, Superintendent of the Germantown (Pa.) office of the U. G. I. Company, has handed in his resignation, on account of ill health. His successor is Mr. W. P. Harmer. Mr. Karsner has been actively connected with the gas supply of Germantown since 1874.

A CORRESPONDENT in Denver, Col., writing under date of the 2d inst., says: "I thought that some account of the Autumn Festival of the Denver Gas and Electric Company might be of interest, so here goes: The Commercial Council of the Denver Gas and Electric Company held an autumn festival the night of October 29th, the meeting room being the Company's Assembly Chamber, and the affair had all the features of a genuine husking bee. The hall was decorated with corn stalks, corn ears, corn cobs and the like, and electric lights concealed in Hallowe'en pumpkins certainly carried out the impression of a barn dimly lighted with lanterns. Pumpkins, too, did fine duty as footlight markings. The opening number of the programme was a parade of the Pikeville band, grotesquely costumed. The band was preceded by a platoon of mounted policemen effectively burlesqued by 'phony' mules, burros and horses. The band was led by Thomas Kennedy, who was costumed with a Sousa effect and who did not neglect any of the customary antics of the typical band leader. One of the strong features of the evening's entertainment was a pie-baking and doughnut-frying contest, in which the virtures of the coal range and the gas range were thoroughly tested. All contestants worked vigorously with the cooking appliances and the decision for the prizes was referred to the audience. The gas range contestants were awarded first prize, which was half a dozen pumpkins. The lemon, the consolation prize, was handed to the coal range contestants. Dancing was enjoyed after the evening's entertainment. The whole thing reflected great credit upon the General Committee and the Reception Committee, headed respectively by Messrs. Putnam and Gentry. A passing word of mention, too, should be given to the noble band of waiters, the head of whom was tip taker Ellison."

THE new storage holder for the Elgin (Ills.) gas supply will be ready in a fortnight. It is badly needed.

"A. T. M.," incloses the following, from Grand Rapids, Mich.: "For the purpose of permitting the Grand Rapids Gas Light Company to make a street lighting demonstration the Board of Rublic Works recently voted to set apart a suitable section in the best part of the city to enable the Company to thoroughly demonstrate modern methods of street lighting by means of gas."

[Continued from page 797.]

PROCEEDINGS AMERICAN GAS INSTITUTE, SECOND ANNUAL MEETING, HELD AT THE NEW WILLARD HOTEL, WASHINGTON, D. C., OCTOBER 16, 17 AND 18, 1907.

FIRST DAY, OCTOBER 16.—MORNING SESSION.

The President—The next business in order is the

REPORT OF THE BOARD OF DIRECTORS.

The report was read by Secretary Dunbar, as follows:

WASHINGTON, D. C., October 16, 1907.

To the American Gas Institute—Gentlemen: The Board of Directors has the honor to submit its second annual report as follows:

Occurrences of Past Year.—Meetings.—Three meetings of the Board have been held during the year, viz.: April 10th and September 12th in New York city, and October 15th in Washington.

Trustees Gas Educational Fund.—The Trustees of the Gas Educational Fund have, in recognition of the annual contribution of the Institute to the Fund, made the President and Junior Past President of the Institute, Trustees ex-officio.

Engineering Societies' Building.—By appointment of the President, Mr. Henry L. Doherty represented the Institute at the dedication of the Engineering Societies' Building in New York city on April 16th and 17th.

New York Headquarters.—Rooms 801 and 802 of the Engineering Societies' Building, 33 West 39th street, New York city, have been rented as permanent headquarters for the Institute, for the amount of $1,524 annually.

By-Laws.—By-Laws necessary to carry into effect various provisions of the Constitution have been adopted and sent to the members

Bureau of Information.—Believing that the members should be benefited by the ability to obtain fairly prompt information on subjects not clear to them, a Bureau of Information was started in April. The result, as was seen by the report of the Bureau, has not been particularly encouraging, as for some reason or other the members have made very little use of this agency.

Question Box.—The Board has not appointed any Editor for the Question Box, as it is thought advisable to discontinue the Question Box until the present material can be properly revised. It was realized that it would not be possible for the old Board of Revision, in the absence of Dr. Harrop, now living in Brazil, to carry out the revision of the Question Box, and, therefore, the President, by authority of the Board, selected a committee of 5 men to do whatever work would be possible this year. That committee will report at this meeting. The Board recommends to the Institute that the Board of Revision be discharged with the thanks of the Institute, especial mention being made of Dr. Harrop, because of his great share in this work.

Affiliation.—The Board has approved a form of agreement, drawn up in accordance with Section 55 of the Constitution, providing for the affiliation of all district, gas or gas and electric associations that will sign such agreement, this including the Iowa, Winconsin and Illinois Associations, whose applications have already been received.

Formation of Sections.—The method of dividing the Institute into sections has been considered by the Board and is still in the hands of a committee which will report to the Board early next year.

Next Place of Meeting.—The President was authorized to appoint a Committee on Next Place of Meeting, and he appointed Messrs. Irvin Butterworth, A. B. Beadle and T. D. Miller.

Papers Approved.—The following papers have been approved for reading at this meeting:

"Depreciation," by Dr. A. C. Humphreys, New York City.

"The Obligations Imposed by the Possession of a Franchise," by Charles H. Dickey, Baltimore, Md.

"Instruction for Operating Recuperative Benches," by W. A. Baehr, St. Louis, Mo.

"Air Blast Gas Appliances," by W. K. Eavenson, Philadelphia, S. Tully Wilson, Denver, Col., and W. H. Allen, Newark, N. J.

"A New Carbonic Acid Gas Indicator," by Charles D. Robison, Nyack, N. Y.

Lecture on "Electrolysis," by Prof. A. F. Ganz, Stevens Institute, Hoboken, N. J.

Report on "A" Meters. Results from Philadelphia, Kansas City, Mo., and Kansas City, Kas.

"Experiences with Dipping Meters."

"Wrinkle Department," by M. R. Bump, Fditor.

Also the following committee reports:

Public Policy; Rates; Uniform Methods of Taking Candle Power;

Economic Balance between Calorific Value and Candle Power; Pipe Standards.

REPORTS.

Membership.—Number of members elected:

Active Members.

Elected first annual meeting	832	
Elected January 3, 1907	34	
Elected June 19, 1907	5	
Elected September 1, 1907	46	
Elected October 12, 1907	19	
		936
Transferred from Junior	1	
Transferred from Associate	1	2
		938
Deceased	4	4
		934

Associate Members.

Elected first annual meeting	200	
Elected January 3, 1907	9	
Elected September 1, 1907	9	
Elected October 12, 1907	5	
		223
Transferred to active	1	
Deceased	3	4
		219

Junior Members.

Elected first annual meeting	59	
Elected January 3, 1907	5	
Elected September 1, 1907	5	
Elected October 12, 1907	1	
		70
Transferred to active	1	1
		69
Total membership, October 16, 1907		1,222

DEATHS.

Active.

A. C. Pease, Lowell, Mass.; January 3, 1907.
J. B. Cahoon, New York City; February 16, 1907.
J. K. Bowen, Schuylkill Haven, Pa.; March 19, 1907.
J. O. Johnston, Columbus, O.; April 21, 1907.

Associate.

J. S. Wilbraham, Philadelphia, Pa.; July 2, 1907.
T. B. Riter, Pittsburgh, Pa.; April 23, 1907.
A. S. Mallory, New York City; August 9, 1907.

Active Members, Elected November, 1906.

Beirne, E. J. O., Consulting Engineer, Hattiesburg (Miss.) Gas Co., Atlanta, Ga.

Brady, J. C., Director, New Amsterdam Gas Co., Westchester Lighting Co., New York city.

Bond, C. O., Chief Photometrist, Philadelphia Gas Works, the United Gas Improvement Co., Philadelphia, Pa.

Crawford, T., General Manager, Clinton Gas Light and Coke Co., Clinton, Ia.

Davis, R. N., Asst. Superintendent, Universal Gas Co., Chicago, Ills.

Dawes, F. A., President, Gainesville Gas Co., Chicago, Ills.

Diffenderfer, J. G., Manager, Dauphin County Gas Co., Steelton, Pa.

Gibson, W., President, Hamilton Gas Light Co., Hamilton, Can.

Griffin, J. F., Foreman of Appliance Department, Indianapolis Gas Co., Indianapolis, Ind.

Hinds, O. H., Installing Gas Machinery and Managing, Le Mars Gas Co., Le Mars, Ia.

Huntting, J. R., General Manager, Lebanon Gas and Fuel Co., Lebanon, Pa.

Jones, T. J., Manager, El Paso Gas and Electric Co., El Paso, Tex.

Kane, J. P., Acting Superintendent, Westchester Lighting Co., Port Chester Dist., Port Chester, N. Y.

Keillor, J., Engineer and Manager, Hamilton Gas Light Co., Hamilton, Ont.

Kelsey, L. D., Manager, Brookfield Gas, Electric and Heating Co., Brookfield, Mo.

Kircher, H. B., Superintendent Gas Co., Belleville, Ills.

Lamson, W. O., Jr., Manager Chester Co. Gas Co., West Chester, Pa.

Leland, F. W., Superintendent, Federal Gas Co., Boulder, Col.

Lockwood, J. E., General Manager, Toledo Gas Co., Toledo, O.

Martin, J., President, California Central Gas and Electric Co., Sacramento Electric, Gas and Railway Co., United Gas and Electric Co., Coast Counties Light and Power Co., *et al.*, San Francisco, Cal.

McDowell, J. C., General Manager, Kansas Natural Gas Co., Pittsburgh, Pa.

Merchant, O. A., Jr., Manager, Cape May Illuminating Co., Cape May, N. J.

Osbourne, E. M., Manager, Holland City Gas Co., Holland, Mich.

Pelton, B. F., Superintendent, Gas Dist., St. Paul Gas Light Co., St. Paul, Minn.

Ruegenberg, J. M., Assistant to Superintendent of Works, United Gas Improvement Co., Philadelphia, Pa.

Sayur, A. I., Engineer and Manager, Calgary Gas Co., Limited, Calgary, Alberta, Canada.

Skellenger, D. P., General Manager, The Morristown Gas Llght Company, Morristown, N. J.

Shaffner, S. C., connected with H. M. Byllesby & Co., owners of gas properties, American Trust Building, Chicago, Ills.

Smith, E. W., Superintendent, Gas Co., Kewanee, Ills.

Snyder, C. S., Assistant District Superintendent, United Gas Improvement Co., Philadelphia Gas Works, Philadelphia, Pa.

Wilson, H. H., Manager, Fort Madison Gas Light Co., Fort Madison, Ia.

Wishart, T., Superintendent, Lafayette Gas Co., Lafayette, Ind.

Young, J. T., General Manager, Muskegon Traction and Lighting Co., Muskegon, Mich.

Associate Members, Elected November, 1906.

Ayers, C. O., Connelly Iron Sponge and Gov. Co., Chicago, Ills.

Ellis, A. V., Salesman, Schneider & Trenkamp Co., Division, American Stove Co., Cleveland, O.

Frampton, R. C., Secretary and Treasurer, Rudd Mfg. Co., Pittsburgh, Pa.

Hayward, E. B., Engineer, Bartlett, Hayward & Co., Baltimore, Md.

Kahn, J., Manager, Pennsylvania Flexible Metallic Tubing Co., New York city.

Phillips, L. R., Sales Department, National Tube Co., Chicago, Ills.

Pilz, C., Treasurer, New York Lead Wool Co. (Inc.), New York City.

Speller, F. N., Metallurgical Engineer, National Tube Co., Pittsburgh, Pa.

Wagner, F. H., Engineer, Bartlett, Hayward & Co., Baltimore, Md.

Junior Members, Elected November, 1906.

Lee, C. W., Vice-President and Treasurer of C. W. Lee Co., Newark, N. J.

Otten, C., Jr., Assistant Superintendent, Westchester Lighting Co., Yonkers, N. Y.

Page, R. F., Commercial Mgr., Gas Dept., Toledo Gas and Electric Heating Co., Toledo, O.

Pratt, E. G., Jr., Asst. to Supt. of Distribution, St. Paul Gas Light Co., St. Paul, Minn.

Willis, C. M., Asst. to Mr. A. E. Forstall, Consulting Engineer, New York city.

Active Members, Elected December, 1906; January, 1907.

Dobbin, G. B., Auditor, Rochester Railway and Light Co., Rochester, N. Y.

Eaton, J. B., Purchasing Agent, Rochester Railway and Light Co., Rochester, N. Y.

Hellen, F., Superintendent Gas District, Rochester Railway and Light Co., Rochester, N. Y.

Willard, F. A., Commercial Agent, Rochester Railway and Light Co., Rochester, N. Y.

Junior Members, Elected December, 1906; January, 1907.

O'Connell, C. M., Assistant Inspector Special Appliances, United Gas Improvement Co., Philadelphia, Pa.

Bache, R. P., Manager, Colorado Springs Light and Power Co., Colorado Springs, Col.

Cohn, C. M., Secretary, Consolidated Gas, Electric Light and Power Co., of Baltimore, Md.

Grant, R., Treasurer, Boston Consolidated Gas Co., Boston, Mass.

Hutchings, J. T., Assistant General Manager, Rochester Railway and Light Co., Rochester, N. Y.

Musil, L. F., Assistant Engineer, H. L. Doherty & Co., New York City.

Active Members, Elected September, 1907.

Ames, J. B., Supt. Mains and Services, Public Service Corporation, Jersey City, N. J.

Barker, W. S., Ass't to Comptroller, Public Service Corporation, 763 Broad Street, Newark, N. J.

Beaumont, W. W., Ass't Supt. St. Ltg. Dept., The Equitable Illuminating Co., 24 North 22d street, Philadelphia, Pa.

Burleigh, J. J., Vice-President, Public Service Corporation, 418 Federal street, Camden, N. J.

Carpenter, H. E., Supt. of Construction, the Astoria Light, Heat and Power Co., 142 East 27th street, New York city.

Causbrook, W. R., Agent, Gas and Electric Department, Public Service Corporation, 129 East Front street, Plainfield, N. J.

Chadwell, W. H., Supt., Market Street Gas Works, Public Service Corporation, Newark, N. J.

Channon, H. O., Manager, Quincy Gas, Electric and Heat Co., 422 Maine street, Quincy, Ills.

Chewning, W. L., Supt., Front Street Gas Works, Public Service Corporation, Newark, N. J.

Cook, H. R., Jr., Supt., Consumers Gas Works, Public Service Corporation, Jersey City, N. J.

Cook, C. G., Agent, Gas and Electric Departments, Public Service Corporation, 222 East State st., Trenton, N. J.

Curtis, C. W., Supt. Camden Coke Works, Gas Dept., Camden, N. J.

Dorr, W. J., Supt. Gas Distribution, Los Angeles Gas and Electric Co., 645 South Hill street, Los Angeles, Cal.

Downey, J. N., Asst. Supt., Camden Coke Co., Camden, N. J.

Dusenbury, J. P., Treasurer Public Service Corporation, 763 Broad street, Newark, N. J.

Elder, D., Supt. Construction, Beardstown Gas and Electric Co., Beardstown, Ills.

Ellis, H., Supt. of Distribution, Public Service Corporation, Camden, N. J.

Evans, O. B., Engineer, the Peoples Gas Light Co., Manchester, N.H.

Foote, R. D., President, Morristown Gas Light Co., Morristown, N. J.

Fulweiler, W. H., United Gas Improvement Co., 25th Ward Works, Richmond and Tioga streets, Philadelphia, Pa.

Gilkeyson, J. R., General Agent, Gas and Electric Dept., Public Service Corporation, Camden, N. J.

Greacen, W., Jr., Agent Gas and Electric Depts., Public Service Corporation, 538 Washington street, Hoboken, N. J.

Hanlon, J. P., Agent, Gas and Electric Depts., Public Service Corporation, 263 Central avenue, Jersey City, N. J.

Kennedy, J., Agent, Gas and Electric Depts., Public Service Corporation, 591 West Spring street, Hoboken, N. J.

Kilgour. J. H., Agent, Gas and Electric Depts., Public Service Corporation, 183 Main street, Passaic, N. J.

McCarter, T. N., President, Public Service Corporation, Newark, N. J.

Melick, T., Supt., Gas Dept., Public Service Corporation, Plainfield, N. J.

Millard, C. F., Supt. Gas Mfr., Los Angeles Gas and Electric Co., 645 South Hill street, Los Angeles, Cal.

Morgan, J. E., Supt., Savannah Gas Co., Savannah, Ga.

Morton, A. B., Manager, Wakefield Municipal Light Plant, Wakefield, Mass.

Reynolds, W. E., Agent, Gas and Electric Dept., Public Service Corporation, 751 Montgomery street, Jersey City, N. J.

Richards, J. L., President and General Manager, Boston Consolidated Gas Co., 24 West street, Boston, Mass.

Roberts, E. C., General Agent, Public Service Corporation, 114 Main street, Hackensack, N. J.

Roeser, C. J., Supt., Hoboken Gas Works, Public Service Corporation, Hoboken, N. J.

Russell, H., Supt., Gas Mfg. Dept., Rochester Railway and Light Co., Rochester, N. Y.

Selig, Gen'l Manager, Gas and Elec. Dept., The Edison Electric Co., Los Angeles, Cal.

Sherwood, M. S., Agent, Gas and Elec. Dept., Public Service Corporation, 226 Springfield Ave., Summit, N. J.

Swan, G. W., Supt, Consumers Light, Heat and Power Co., 214 E. 1st Street, Topeka, Kan.

Taylor, J. B., Treasurer, Watertown Gas Light Co., Watertown, N. Y.

Thomas, W. F., Agent, Gas and Electric Dept., Public Service Corporation, 392 George street, New Brunswick, N. J.

Thuman, F., Chief Engr. and Gen'l Manager, Humphreys & Glasgow, 38 Victoria street, London, S. W., England.

Treleaven, L. G., Manager, Consumers Light, Heat and Power Co., 824 Kansas ave , Topeka, Kan.

Wheeler, H. A., Agent, Gas and Electric Dept., Public Service Corporation, 27 W. 8th street, Bayonne, N. J.

Wright, W. W., Supt., Morristown Gas Light Co., Morristown, N. J.

Zingg, S. P., Agent, Gas Dept., Public Service Corporation, 458 Bloomfield avenue, Montclair, N. J.

Simons, K. L., Supt. Gas Dept., Birmingham Railway, Light and Power Co., Birmingham, Ala.

Junior Members, Elected September, 1907.

Beebe, T. R., Manager Stove and Natural Gas Dept., the Peoples Gas Light and Coke Co., 155 Michigan ave, Chicago, Ills.

Myers, E. B., Asst. Supt. City Dist., Philadelphia Gas Works, 9th and Dudley streets, Philadelphia, Pa.

Gilpin, F. H., Asst. Dept. of Tests, United Gas Improvement Co., 260 South 15th street, Philadelphia, Pa.

Perkins, R. P., Asst. Foreman of Fitters, United Gas Improvement Co., 2005 Delancey street, Philadelphia, Pa.

Wellman, H. G., Manager, Retort Coke Oven Co., Cleveland, O.

Associate Members, Elected September, 1907.

Gunderson, G. B., Sec. and Treas., Detroit Stove Works, Detroit, Mich.

Bargemin, C., Gen. Manager, Novelty Mfg. Corporation, 327 28th street, Newport News, Va.

Inslee, C. L., President, Guarantee Construction Co., 72 Trinity place, New York city.

Murdock, C. B., Gas Engineer, Pine Bluff, Ark.

Ruud, E., Manufactnrer, Ruud Manufacturing Co., Pittsburgh, Pa.

Schurz, J. R., Gen'l Sales Agent, Camden Coke Co., 418 Federal st., Camden, N. J.

Stites, T., Gen'l Manager, Welsbach Co., Gloucester, N. J.

Thomas, R. H., Gen'l Sales Agent, White & Middleton Gas Engine Co., 107 Liberty st., New York city.

Wilson, E. F., Chemist, Irwin, Westmoreland Co., Pa.

Active Members, Elected October, 1907.

Barnes, A. M., Treasurer and General Manager, Cambridge Gas Light Co., Cambridge, Mass.

Bertke, W. J., Ass't Supt., Wyandotte Gas Co., Kansas City, Kas.

Brodnax, W. F., Ass't Supt., Allentown Gas Co., Allentown, Pa.

Burritt, D. E., Supt., Springfield Gas Light Co., Springfield, Mass.

Carter, R. A., Vice-President, Consolidated Gas Co., 4 Irving Place, New York City.

Clarke, J., Manager, Cape Girardeau (Mo.) Water, Gas & Electric Co., Washington Hotel, St. Louis, Mo.

Covert, I. C., Supt., Gas Dept., the Paducah Light and Power Co., Paducah, Ky.

Eves, P., Sales Agent, the Indianapolis Gas Co., Indianapolis, Ind.

Hoffman, H., Engineer, South Bend and Mishawaka Gas Co., South Bend, Ind.

James, R. C., Ass't Gen'l Auditor, United Gas Improvement Co., Philadelphia, Pa.

Kaftenkamp, J. P., Ass't Supt., Rochester Railway and Light Co., Rochester, N. Y.

Keene, A. M., Auditor, Westchester Lighting Co., Mt. Vernon, N.Y.

Kennedy, J. P., Supt., Cambridge Gas Light Co., Cambridge, Mass.

Lyon, C. L., Cadet Engineer, Savannah Gas Co., Savannah, Ga.

Maloney, A. P., President, Treasurer and Manager, City Gas Light Co., Ocean City, N. J.; Lakewood Gas Co., Lakewood, N. J., 1530 Land Title Building, Philadelphia, Pa.

Tenney, A. B., Gen'l Manager, Malden Electric Co., Malden and Melrose Gas Light Co., Malden, Mass.

Wood, W. M., Supt. Distribution, Kansas City Gas Co., Kansas City, Mo.

Miller, V. A., Supt., Canandaigua Gas Light Co., Canandaigua, N. Y.

Scobell, E. C., Ass't Auditor, Rochester Railway and Light Co., Rochester, N. Y.

Associate Members, Elected October, 1907.

Dudley, A. D., United Gas Improvement Co., Philadelphia, Pa.

Koppers, H., Engineer and Coke Oven Contractor, Joliet, Ills.

Little, A. S. B., Engineer, Missouri Firebrick Co., St. Louis, Mo.

North, F. S., Treasurer and General Manager, Suffolk Gas and Electric Light Co., Bay Shore, N. Y.

Owens, H. T., Inspector of Lamps and Gas, 13 Park Row, New York city.

Junior Member, Elected October, 1907.

Flowers, D. W., Chemist, Binghamton Gas Works, Binghamton, N. Y.

Badges Received, September 1st, 1907.

Date.	Number Received
January 26th	10
February 23d	69
March 1st	31
March 1st	1
March 9th	11
March 29th	100
April 29th	52
May 4th	50
June 1st	1
June 20th	25
June 21st	2
June 22d	1
August 2d	25
August 17th	50
August 11th	3
August 19th	1
Total	432

Badges sold to sept. 1, 1907	227	
Badges on hand, Sept. 1, 1907	205	
		432

Received for Sale of Badges.

227 badges at $3.75 each	$851.25	
Engraving on badges	35.68	
		$886.93

Disbursements.

Remitted to T. C. Jones, Treasurer	$805.00

Registered stamps purchased	$22.50	
Stamps received as purchase price and used by the Institute	3.01	
Cash balance in hands of Secretary, Sept. 1, 1907	56.42	
		$886.93

Approved, T. C. JONES,
CHAS. F. PRICHARD.

Proceedings of Institute for the 1906 Meeting, September 1st, 1907.

Volumes received from printer	1,700	
Returned from members	5	
		1,705
Sent to members	1,145	
Exchange list	3	
Sold	9	
On hand	548	
		1,705
Sale of 9 Volumes of Proceedings	$50.00	
Sale of Abstracts	2,00	
		$52.00
Amount to credit of Institute in hands of Secretary		$52.00

Approved, T. C. JONES,
CHARLES F. PRICHARD.

American Gas Institute Receipts from July 16, '06 to Oct. 13, '06.

Borrowed from Western Gas Association	$400.00	
Membership fees	195.00	
Dues	270.00	
		$865.00

Disbursements.

Railway Passenger Association	$20.25	
Wrinkle Department	72.18	
Postage	250.90	
Stenographer and clerk	90.80	
Stationery, printing and supplies	41.70	
Telegrams	2.80	
Invitations and badges	179.70	
Total expenditures	$658.33	
Cash in treasury	206.67	
		$865.00

American Gas Institute Receipts from Oct. 13th, '06 to Nov. 7, '06.

Borrowed from Western Gas Association	$500.00	
Returned from Passenger Association	20.35	
Membership fees collected	140.00	
Membership dues collected	115.00	
Balance cash on hand October 1st, 1906	206.67	
		$982 02

Disbursements.

Stationery and sundry printing	$97.75	
Expenses Chicago meeting	71.45	
Freight and telegrams	16.90	
Clerk hire	86.00	
Drawings, cuts and electrotypes for 1906 papers	66.80	
Printing constitutions	57.50	
Membership list	107.75	
Printing papers, October meeting	364.00	
Balance remitted to T. C. Jones November 7th, 1906	113.87	
		$982.02

The report of the Treasurer showed total receipts of $12,871.40, expenditures of 10,875.49, and a balance of $995.91.

Estimate of Receipts and Expenses.—9-1-'07 to 9-1-'08.

Receipts.

Dues—1,050 Active and Associate; 75 Junior	$10,875.00
Initiation Fees—100 Active and Associate; 10 Junior	1,550.00
Sale of Surplus Badges	700.00
Sale of Reports and Proceedings	200.00
Received from American Gas Light Association	798.60
" " Gas Congress	120.41
Total	$14,243.01
Balance on hand, 9-1-'07	995.91
	$15,238.31

Expenses.

Rent of Headquarters	$1,524.00
Salary of Secretary and Treasurer	3,000.00
Clerical Assistance	1,000.00
Abstracts	1,000.00
Annual Meeting, Reporting and Publishing	3,800.00
Sundry Printing and Postage	1,500.00
Directors' Meeting	200.00
Gas Educational Fund	350.00
Salary of Secretary, '06-07	1,200.00
Sundries	1,000.00
Total	$14,574.00
Estimated balance, 10-1-'08	664.92

Recommendations.—Abstracts.—During the past year the members have received three sets of abstracts covering publications of interest to the gas profession. These abstracts have been selected by the Secretary from a collection furnished him by the United Gas Improvement Company. This Company has agreed to continue this practice during the coming year. The Board recommends that the issuance of the abstracts be continued.

Exhibition Room.—The Board recommends that at future meetings a large room be provided for any exhibits of apparatus and appliances which manufacturers desire to make. The control and arrangement of this exhibition space should rest with the Institute, preferably the Committee on Arrangements, in connection with the Technical Committee to be spoken of later on. Through the provision of such space and every other possible way, the Institute should afford the manufacturers an opportunity of acquainting its members with their products.

Transfer and Cessation of Membership.—The Board recommends an amendment to the Constitution, giving the Directors power to change the grade of membership of any member no longer eligible to the grade to which he belongs, or in case he is no longer eligible to any grade, to terminate his membership.

Listing of Members.—The Board recommends an amendment to the Constitution providing that every member should be listed on the Institute rolls and lists of membership by the title, or titles only from which he derives his eligibility to this class of membership.

New Organization.—Being thoroughly convinced of the necessity for a change in the organization of the Institute, in order to better fit it for the work that awaits it, the Board recommends certain changes in the Constitution to obtain an organization substantially as follows:

President.—He will preside at all Institute meetings wherein the members meet as one body, to hear the Presidential address, to elect officers, to conduct any other business of the Institute, and to consider such papers and questions as in the judgment of the Directors should be brought before a general meeting. He will be ex-officio a member of every committee and sub-committee.

Secretary and Treasurer.—There should be one person, a salaried officer, combining both these offices, and with duties as now prescribed by the Constitution.

Directors.—Number and powers as now prescribed in the Constitution. This insures that all committee reports and decisions shall receive the approval of the Directors before public discussion or publication. The Directors also control all appropriations.

Committees.—To insure quality as well as quantity and a unity of purpose, the oversight of the work should be in comparatively few hands. To accomplish this end the Board recommends that there be two general committees, viz., a Technical Committee and a Public Relations' Committee, each committee to be composed of 6 members, to be appointed by the President each year, and to serve for one year. In general, every question which has a bearing on the relations of a company to the public or to any governing body would be considered by the Public Relations Committee. The Technical Committee would devote its especial attention to the prosecution of research work and to securing papers for the meetings. Every resolution of the Institute for the investigation of any question, whether as the result of the reading of a paper or not, would be referred by the President to whichever of these committees it would naturally belong. Whenever either committee thought it advisable a sub-committee would be appointed, a member of the general committee being chairman, and the other members being elected from the Institute membership. This sub-committee would exist at the pleasure of the general committee, to which its report would be made. If the membership of these two committees be properly chosen they will, in connection with a Secretary, devoting his entire time to Institute work, effect a marked improvement in the latter. Instead of, as at present, papers coming in each year too late to be properly considered before going to press, and the meeting programme a miscellaneous collection of subjects, it is possible to imagine a programme thought out a long time in advance, each paper more or less a supplement of the other, and in the hands of the committee several months before the meeting, to enable careful consideration and possible revision. With the organization as above outlined, there will be far less danger than now exists of ill-considered papers, discussion being embodied in the proceedings, and of hasty action on questions, whether of technical nature or affecting public relations. Notwithstanding this, the Board recommends that any resolution, recommendation or report that has not been considered and approved by the Directors, and that, in the opinion of the Chair, would have the effect of changing the policy of the Institute, or committing it to any new policy or opinion to which it had not theretofore been committed, should be referred by the Chair, before adoption, to the Board of Directors to report at the next regular Institute meeting. The Board believes there are some things that should not be dis-

cussed at the Institute meetings, except in executive session. It also recommends the formation of a Publication Committee to be the sole judge of what shall appear in the proceedings. The necessary changes in the Constitution are as follows:

The insertion of a new Section 21, to wit:

SEC. 21.—The Directors may transfer any member from his then present to any lower grade of membership. They may also refuse to receive the dues of any member who is no longer eligible to any grade. No transfer of grade shall be made, or refusal to accept dues recorded, except upon notice from the Secretary, whose duty it shall be to give such notice that said member is no longer eligible for membership in his then present grade, and that said member has for a period of 90 days, after notification of such non-eligibility, failed to apply for transfer. The vote in each case shall be by ballot, and shall require two-thirds of the votes cast for its adoption.

Re-numbering of present Section 21, new number to be 22.
" " " " 23, " " " 24.
" " " " 24, " " " 25.
" " " " 25, " " " 26.
" " " " 26, " " " 27.
" " " " 27, " " " 28.
" " " " 28, " " " 29.
" " " " 29, " " " 30.
" " " " 30, " " " 31.
" " " " 31, " " " 32.
" " " " 32, " " " 33.

Amending present Section 33 to read as follows:

SEC. 34. The President shall take the chair at all meetings of the Institute, of the Board of Directors and of committees at which he is present. He shall determine to which general committee any matter shall be referred.

Re-numbering of present Section 34, new number to be 35.
" " " " 35, " " " 36.
" " " " 36, " " " 37.
" " " " 37, " " " 38.

Amending present Section 38 to read as follows:

SEC. 39. The duties of the Directors shall be to have the general management of the affairs of the Institute, and to prepare for its meetings. No paper or report that has not had the approval of the Directors shall be read at any meetiug.

The Directors shall have the power to appoint from time to time a Committee of Arrangements from among the members to assist the Board of Directors in arranging for the meetings of the Institute. The Directors shall have power to fill for the unexpired term any vacancies occurring by death or resignation, in their own number, or in the general committees.

Any resolution, report or recommendation that has not been considered and approved by the Dirctors, and that, in the opinion of the Chair, would have the effect of changing the policy of the Institute, or committing it to any new policy or opinion to which it had not theretofore been committed, should be referred, before adoption, to the Board of Directors, whose duty it shall be to report to the next regular meeting of the Institute upon such committal, if any, and its proper phrasing.

The insertion of a new Section 40, to wit:

SEC. 40.—There shall be two general committees, each reporting to the Board of Directors and responsible to the Board for such part of the work of the Institute as is delegated to it in accordance with the provisions of Sections 34, 41 and 42. Each committee shall be composed of 6 members, to be appointed each year by the President, and to serve 1 year.

The insertion of a new Section 41, to wit:

SEC. 41. One general committee shall be called the Public Relations Committee, and to it shall be referred all investigations, reports, recommendations, resolutions and matters of any kind affecting the relations between the Institute, or its members, and the public, or any governing bodies, except as herein provided.

The insertion of a new Section 42, to wit:

SEC. 42. One general committe shall be called the Technical Committee, and to it shall be referred all investigations, reports, recommendations, resolutions and matters of any kind having to do with the construction, operation and extension of gas works, and the conduct of the affairs of gas companies, not specifically delegated to the Public Relations Committee by Sec. 41, and except as herein otherwise provided.

The insertion of a new Section 43, to wit:

SEC. 43. Each general committee shall have the power to appoint sub-committees. Each sub-committee shall consist of one member of the general committee, the other members being taken from the general membership of the Institute, and shall exist at the pleasure of the general committee by which it was apppointed, and to which its report shall be made.

Re-numbering of present Section 39, new number to be 44.
" " " " 40, " " " 45.
" " " " 41, " " " 46.
" " " " 42, " " " 47.
" " " " 43, " " " 48.
" " " " 44, " " " 49.
" " " " 45, " " " 50.
" " " " 46, " " " 51.
" " " " 47, " " " 52.

The insertion of a new Section 53, to wit:

SEC. 53.—The President, the Vice-Presidents and the Chairmen of the two general committees shall constitute a Publication Committee, and nothing shall be included in the published reports of the Institute's proceedings, or in any other publication issued by its authority, that has not been approved by at least two-thirds of the full membership of the Publication Committee.

Re-numbering of present Section 48, new number to be 54.

Amending of present Section 49 to read as follows:

SEC. 55. The Board of Directors may, in its discretion make, with any one (or each) of the district and State gas, or gas and electric associations, now existing or hereafter to be formed, that will agree thereafter not to elect to voting membership any person connected in any way with the gas industry who is not directly identified with gas or electric interests within the district or State whose name it bears, to consult with the Institute before undertaking any original work of interest to the gas profession, and to do each year, under the direction of the Institute, a certain amount of original work, agreements for co-operation between the Institute and such associations. Each and every district or State gas, or gas and electric, associations, with which such agreements are entered into, shall be entitled to elect one of its members a member of the Board of Directors of the Institute, the member so elected to be in addition to those named in Section 23, provided that the number of such associated directors shall never exceed one-third of the total membership of the Board. Should the Board of Directors provide for an executive committe, this committee shall include in its membership one man from each of the affiliated associations as long as the number of such associations does not exceed six. Thereafter there shall be on the executive committee at least six men who are members of affiliated associations and have among them membership in at least six such associations.

The amending of present Section 50 to read as follows:

SEC. 56. Each member of the Institute in good standing shall be entitled to and shall be furnished by the Secretary with a copy of the Proceedings of the Institute for the current year, in which shall be listed the names and addresses of the members. In any such list each member shall be listed by the title, or titles, only from which he derives his eligibility to his class of membership.

Re-numbering of present Section 51, new number to be 57.

JAMES W. DUNBAR, Secretary.

Discussion.

The President—The report of the Board of Directors is before you for action.

Mr. Cowdery—Mr. President, I move you that the report of the Board of Directors be received and printed in the "Proceedings," and that all its recommendations, not involving a change in the Constitution, be approved, and that the Secretary cast the ballot of the Institute for the proposed amendments to the Constitution. [Seconded.]

The President—Gentlemen, you have heard the motion. Are you ready for the question?

Mr. Egner—Mr. President, I think that the matter of changing the Constitution is a very serious one. If I understand aright, the Secretary is to cast the ballot for the proposed amendments. I think those proposed amendments to the Constitution should be printed and sent to the different members so that they may vote on them by ballot. I certainly hope that that motion will not prevail, that the Secretary cast the ballot for the amendments to the Constitution without further consideration or submission to the members. I have listened to them very attentively, and there are some changes proposed there which I would like the opportunity to consider. I hope that the motion will not prevail.

The President—I will say for Mr. Egner's information that we could not take a letter ballot on the amendments to the Constitution. The Constitution itself forbids that. I think the changes proposed are very simple, are readily understood, and the changes that are proposed are necessary to carry into effect the recommendations that the Board have made for the enlargement of the work of the Institute.

Mr. Boardman—I notice in the recommendations one to consolidate the office of the Secretary and Treasurer. I would ask for informa

tion, if the Secretary-Treasurer's office is supposed to be a bonded office. I did not hear anything mentioned in the recommendation about that, and I think it is very necessary that he should be a bonded officer. Unless that is contemplated, I would like to make an amendment to that proposition.

The Secretary—The by-laws which were adopted by the members of this Association through a mail ballot provide for the bonding of the Treasurer in a guarantee company, the Institute to pay the premium on the same.

The President All in favor of the adoption of the resolution of Mr. Cowdery, seconded by Mr. Forstall, please say "Aye." Contrary minds, "No." Carried. The Secretary, as instructed by the Institute, will please cast the ballot for the proposed amendments to the constitution.

The Secretary - Comp'ying with your instructions, I vote for the changes in the constitution that you have just heard read in the report of the Board of Directors. The vote, as cast by the Secretary, was certified to by the tellers, Messrs. A. G. Glasgow and Paul Thompson.

The President—The next business is the

REPORT OF THE TRUSTEES OF THE GAS EDUCATIONAL FUND,

which was presented by the Secretary:

To the Subscribers to the Trustees Gas Educational Fund: Gentlemen—The Trustees appointed at the Twenty-sixth Annual Meeting of the American Gas Light Association, held October 17, 1898, to administer the Educational Fund formed by your subscriptions, submit the following report as to the work done from October 1, 1906, to September 30, 1907.

The work has been carried on along the same lines as in previous years and the number of students in the Practical Class has, as before, averaged about 100. This membership is maintained without any attempt to bring it to the notice of persons eligible for membership, largely through the recommendation of the work given by former students to their associates. Judging from previous experience, if any effort were made to call attention to the work of the Class the number of applications would increase far beyond the limit of 150 set for the maximum membership on account of the inability to pay for the full time of a man qualified to take charge of the Class work. With regard to the qualifications required in such a man it is to be considered that the mere preparation of the Trustee's answers to the questions sent out to the Class is the smallest and least exacting part of the work. Each set of answers sent in by a student is gone over carefully and criticised, and in order to make the criticisms valuable to the students it is necessary that the man in charge of the work shall have a sufficiently wide knowledge of types of apparatus and methods of operation in use all over the United States; also, a sufficient acquaintance with the literature available for the students to enable him to determine whether or not the students are writing from actual experience, from knowledge obtained through reading, or are merely making a guess at the answer. It can be readily seen that the criticism would be very different according to the methods employed by the student in preparing his answers.

It could hardly be expected that the whole time of a man with so wide a knowledge of conditions could be secured for $3,000 per year, especially when it is remembered that out of this he must pay for a stenographer and also not inconsiderable proportion of the office rent, so that at the outside he does not have left for himself more than $2,000 per year.

It is very much to be desired that we should be in a position to employ a competent Secretary who could give his full time to the work of the position, and, therefore, it is also much to be desired that the subscriptions to the fund be materially increased.

The payment now due on the subscriptions is the final one of the 5-year period for which most of them were made, and each subscriber is earnestly requested not only to renew his former subscription but to use his utmost endeavors to secure further subscriptions from his friends who are financially interested in the gas business and consequently benefit by the work of the Trustees.

The work of publishing, in a single volume, all of the answers sent out to different sections of the Class has been delayed, partly by an attempt to learn whether or not there were any figures for the weights per cubic foot, the calorific value and other properties of gases which were recognized as being correct by any properly constituted authority in the United States, and partly owing to the inability of the Secretary to devote the necessary time to this part of the work. This work will be pushed as rapidly as possible.

In view of the fact that the American Gas Institute has assumed the subscriptions previously made by the American Gas Light Association and the Western Gas Association, it has has been provided that the President and the Junior Past-President of the Gas Institute be ex-officio Trustees, as was the case with the same officers of the American Gas Light Association.

During the year 18 members of the Section of 1907 finished their course and their connection with the Class ceased, while the Section of 1910 started work on January 2, 1907, with a membership of 43.

The number of members in each Section at the beginning of the year, and the changes that have taken place during the year, with the names of the members of the Class who have completed the course during the year, are shown in detail on the Secretary's report, which is appended.

The Section of 1908 now contains 17 members, the Section of 1909, 24, and the Section of 1910, 55, making the total membership in the regular Class 96. Three special students are receiving the questions and answers with the Section of 1909 and one with the Section of 1910.

The card index of the principal articles published in the AMERICAN GAS LIGHT JOURNAL, *Progressive Age* and the *Journal of Gas Lighting* has been kept up during the year.

It may be advisable to remind the subscribers that, in connection with the office of the Secretary, there is a room which is available for their use, in case, when visiting New York, they wish to make appointments with other non-residents and do not care to make these appointments at their hotel.

The Treasurer's report, which is appended, shows the total amount of subscriptions to date, the available income and expense for the year, a summary of the cash account and the statement of the amount of the surplus fund and the securities in which it has been invested.

The surplus fund is made up of a contribution of $1,000, of subscriptions paid in in advance of the time when they are due, of unexpended balances and of interest received on investments. The proper proportion of the advance subscriptions will, of course, be drawn out each year to meet expenses, but the unexpended balances and the interest will accumulate into a fund which will be available to assist in carrying on the work in case all present subscriptions are not renewed when they expire. Respectfully submitted,

Trustees Gas Educational Fund,
WALTON CLARK, Chairman.
ALFRED E. FORSTALL, Secretary.

SECRETARY'S REPORT FOR YEAR ENDING SEPTEMBER 30, 1907.

	Section of 1907.	Section of 1908.	Section of 1909.	Section of 1910.	Special 1909.	Special 1910.	Total.
Members enrolled Oct. 1, 1906.....	22	21	42		4		89
Entered Class Jan. 1, 1907.....				43		1	44
Additions to Class since Jan. 1, 1907				45			45
Reinstated in Class during year.....		1	1				2
	22	22	43	88	4	1	180
Resigned during year.....	1	1	1	6		9	
Dropped from Class during year.....	3	4	18	27	1	53	
Finished course during year.....18						18	
	22	5	19	33	1		80
Total enrollment Sept. 30, 1907....		17	24	55	3		100
Applications on file for admission to Class Jan. 1, 1908,							13

Names of Students who Completed the Three Years' Course with Section of 1907.

Baker, W. J., Janesville, Wis.
Beebe, T. R., Chicago, Ills.
Brown, S. W., Waterbury, Conn.
Bundy, O. H., New York City.
Burns, M. B., Little Falls, N. Y.
Cook, L. H., Tonawanda, N. Y.
Knapp, A. M., Peekskill, N. Y.
McCormack, F. C., San Francisco, Cal.
Mueller, A. F., Seattle, Wash.
Odeneath, H. E., Philadelphia, Pa.
O'Donnell, C. J., Philadelphia, Pa.
Parker, J. C., Philadelphia, Pa.
Shoul, C. D., Houston, Tex.
Stevick, H., Long Island City, N.Y.
Sucher, T. R., New Haven, Conn.
Weinmeister, C. J., Atlanta, Ga.
Wilde, C., Colwyn, Pa.
Wilson, H. H., Fort Madison, Ia.

In addition to these, A. S. Quackenbush, Rockford, Ills.; R. J. Ritchie, Plattsmouth, Neb.; R. Schmitt, Kingston, N. Y., and L. J. Wicker, Detroit, Mich., answered all except the last two sets of questions.

TREASURER'S REPORT FOR YEAR ENDING SEPTEMBER 30TH, 1907.

Conditions of Subscriptions.

	For Year 1906-1907.	
Total of old subscriptions holding over from original 5-year period.....	$92.50	$92.58

		For Year 1906-1907.
Total new subscriptions reported September 30, 1906	$23,046.00	$4,609.20
Subscriptions received since that date	405.00	81.00
	$23,543.58	$4,782.78
Less amounts discontinued or unpaid on account of death of subscribers	$860.00	
Not considered good	100.00	
	960.00	195.00
Total to October 1, 1907	$22,583.58	$4,587.78
Received from subscribers during year	$4,291.00	
Payments not applicable to year	479.00	
Total paid in by subscribers since September 30, 1906, and available for year	$3,812.00	
Paid in previous to current year on account of 1906-1907 subscriptions	550.78	
Total paid in by subscribers available for this year.	$4,362.78	
Still to be paid for this year	225.00	
Total subscriptions available for year		$4,587.78
Dues received for membership in Special Class		10.00
Sale of 13 sets of questions and answers for 1 year		65.00
Sale of 3 sets of questions and answers for 1 year less 10 per cent. to book dealers		13.50
Total amount available for year		$4,676.28

Statement of Income and Expense.

Total amount available for year		$4,676.28
Expenses.		
Secretary's salary	$3,000.00	
Office rent	300.00	
Printing, stationery, postage, etc	570.00	
Cuts used in illustrating answers	14.34	
Periodicals and binding	12.48	
Fire insurance on books	12.18	
Total expenses paid to October 1, 1907	$3,909.82	
Add for expenses incurred but unpaid:		
Printing, stationery, postage, etc	$72.25	
Cuts used in illustrating answers	3.90	
	76.15	
Total expenses for year		3,985.97
Balance		$690.31
Depreciation on furniture		16.05
Surplus on year's operation		$674.26

Cash Account.

Received from subscribers since September 30th, 1907, current fund	$4,291.00	
Interest for 1 year on $2,000 Binghamton Gas Works 1st mortgage 5 per cent. bonds	100.00	
Interest for 1 year on $1,500 Atchison, Topeka and Santa Fe Railroad general mortgage 4 per cent. bonds	60.00	
Interest for 1 year on $1,000 Omaha Gas Company 1st mortgage 5 per cent. bonds	50.00	
Interest for 1 year on $1,500 New Gas Light Company, of Janesville, 1st mortgage bonds (guaranteed by the United Gas Improvement Company)	75.00	
Interest on deposit in Knickerbocker Trust Co	112.75	
Sales of questions and answers (for items see above)	78.50	
Dues received for membership in special class	10.00	
Total receipts for year	$4,777.25	
Cash balance from last year	1,370.88	
Total to account for		$6,148.13
Expenses for year paid	3,909.82	
Furniture (bookcase units)	25.75	
Total paid out		3,935.57
Balance		$2,212.56
Balance in Knickerbocker Trust Company as per pass book	2,192.56	
Cash on hand	20.00	
		$2,212.56

Surplus Fund and Investment.

Amount paid in by subscribers in advance	$1,024.20
" " " to surplus fund	1,000.00
Unexpended balance from 1898-1899	1,330.99
" " " 1899-1900	397.70
" " " 1900-1901	343.71
" " " 1901-1902	211.88
" " " 1902-1903	359.89
" " " 1903-1904 (after deduction of cancelled subscriptions previously included)	225.88
Unexpended balance from 1904-1905 (after deduction of cancelled subscriptions previously included)	481.38
Unexpended balance from 1905-1906 (after deduction of cancelled subscripttons previously included)	$529.10
Interest on bonds to date	1,662.22
Interest on deposit in Knickerbocker Trust Company	261.49
	$7,828.44

Already Invested.

$2,000	Binghamton Gas Works 1st mortgage 5 per cent. bonds	$1,930.00
1,500	Atchison, Topeka and Santa Fe R. R. general mortgage 4 per cent. bonds	1,513.75
1,000	Omaha Gas Company 1st mortgage 5 per cent. bonds	1,000.00
1,500	New Gas Light Company, of Janesville, 1st mortgage 5 per cent. bonds (guaranteed by the United Gas Improvement Company)	1,500.00
	Furniture	142.54
		6,086.29
		$1,742.15

NEW YORK, October 11th, 1907.

We, the undersigned members of the Finance Committee of the Trustees Gas Educational Fund, have this day examined the books and accounts of William R. Beal, Treasurer, for the year ending September 30th, 1907, and have found the same to be correct, and the above balance of $2,192.56 to be in the bank.

ALEX. C. HUMPHREYS, W. F. DOUTHIRT, } Finance Committee.

[To be Continued.]

[FURNISHED BY THE SECRETARY.—CONCLUDED FROM PAGE 801.]

PROCEEDINGS OF THE THIRD ANNUAL MEETING OF THE EMPIRE STATE GAS AND ELECTRIC ASSOCIATION, HELD IN NEW YORK CITY, WEDNESDAY, OCTOBER 2, 1907.

AFTERNOON SESSION.

The President called for the report of the committee on the

METER TESTING SITUATION,

which was read by Mr. R. M. Searle, as follows:

The meeting was called to order in Hotel Ten Eyck, Albany, the morning of September 9th, by Mr. C. R. Huntley, who said it had been suggested that Prof. Robb should act as Chairman. Mr. Huntley moved (seconded by Mr. Williams) that Prof. Robb be appointed permanent Chairman. [Adopted.]

It was moved by Mr. Williams, duly seconded, that Mr. Chapin act as Secretary. [Adopted.]

The original notice sent by the State Commission to the Companies of the State, calling the hearing, which was held on August 29th, and the questions submitted to the Companies at their meeting August 28th, were read by the Secretary.

It was moved by Mr. Paine and duly seconded that the Commission be requested to send the following questions to each of the electric companies in the State, that they request the companies to make their replies as concise as possible, and that these replies be tabulated, and that a copy of such tabulation be furnished to this Committee. [Adopted.]

QUESTIONS TO BE ASKED OF THE OPERATIVE COMPANIES.

1.—Are periodic tests made of meters already installed?

2.—What do the results of such tests show?

3.—Are meters tested on a customer's premises usually readjusted on the spot, or removed and new meters installed?

4.—(a) What is the system of testing meters on complaint?
(b) What apparatus is used?
(c) What percentages of meters tested on complaint are found fast?
(d) What percentages are found slow?
(e) What percentages correct within the requirements of the law?

5.—(a) Do you use one man, or two working together, to make test on customer's premises?
(b) If one man, how many meters can he test in a day?
(c) If two men, how many meters can they test in a day?
(d) Are the slight repairs and adjustments necessary made by these men at the time of the test?
(e) What is the length of your working day?

6.—What method is used for testing new meters?

7.—What portable test meters or other testing apparatus are used?

8.—How often and where is the apparatus calibrated?

9.—What station standards are used?

10.—(a) How are station standards calibrated?
(b) How often?
(c) Where?

Moved by Mr. Williams, duly seconded, that the working of qu.s-

tion 11, which is to cover the subject of sealing meters, be left to the Chairman? [Adopted.]

Moved by Mr. Paine, duly seconded, that the questions asked the manufacturers by the Commission be omitted. It was moved, seconded and carried that the following recommendations be approved:

1.—That it be recommended to the Commission the acceptance of certain or all types of meters and all new types to be submitted to the Commission.

2.—That it be recommended to the Commission that they continue to deal with the inspection of individual meters as they now do until a practical manner of carrying out the feature of the law can be evolved.

3.—That the Commission be requested to fix on as small a charge as possible for the service of their representative to supervise the test of all meters complained of by consumers on consumers' premises.

4.—That the following section of the law be printed at the top or on the back of each billhead, together with the resolution of the Commission fixing the charge for the services of the Commission's representative with an example of the blank billhead and the manner of charging for services as submitted to the Commission for their information and approval:

"If any consumer, to whom a meter has been furnished, shall request the Commission in writing to inspect such meter, the Commission shall have the same inspected and tested; if the same, on being so tested, shall be found 4 per cent., if an electric meter, or 2 per cent., if a gas meter, defective or incorrect to the prejudice of the consumer, the inspector shall order the gas or electrical corporation forthwith to remove the same and to place instead thereof a correct meter, and the expense of such inspection and test shall be borne by the consumer. A uniform, reasonable charge shall be fixed by the Commission for this service."

5.—It is suggested that companies send to the Commission a statement once a month of tests on complaint of meters.

6.—That a sub-committee of three report to the general committee at its next meeting upon a feasible method of supervising a company's standards and tests of consumers' meters, the committee to consist of the Chairman and such others as he may select to be associated with him.

7.—It is suggested that a sub-committee be appointed to answer the only question asked by the Commission at the meeting on August 29th, 1907, and which was not completely answered at that time. That is: "The number and causes, the kinds, the number discovered on complaint as well as discovered by company, of meters running fast. The committee to consist of Mr. Arthur Williams, of Yonkers, Chairman; Mr. R. M. Searle, of Rochester, and Mr. F. W. Cunningham, of Elmira, and that this sub-committee report at the next meeting of the general committee.

Telegram received from Mr. Sheehan stating that he would arrive at 12 o'clock. When Mr. Sheehan arrived at the hotel he was misinformed at the office and was unable to find the Committee. The following members were present:

Prof. W. L. Robb and Messrs. H. J. Blakeslee, C. R. Huntley, J. S. Langdell, F. B. H. Paine, R. M. Searle, Silas Taber and Arthur Williams.

Letters were received from Messrs. T. R. Beal, G. W. Cunningham and L. E. Imley.

Motion seconded and carried that the meeting adjourn subject to the call of the Chair. Meeting adjourned at 1:30 P.M. I may add that the committee named by Prof. Robb in accordance with recommendation No. 6 is: Messrs. Blakeslee, Paine and Searle.

Discussion.

Mr. Stead—Mr. Searle, is it contemplated the Commissioners should take charge of the testing of meters on the consumers' premises, whether or not there is to be any complaint on the part of the consumer?

Mr. Searle—If the company asks they would have to.

Mr. Stead—Only under these circumstances?

Mr. Searle—Yes, sir.

The report submitted by Mr. W. W. Cole was read, after which the President introduced Mr. E. Leavenworth Elliott, who read the following paper on

BUYING AND SELLING ILLUMINATION:

Commerce (light science) is based upon measurement. Its growth may, therefore, be traced through the same stages of evolution. In order to set a money value upon a commodity it is necessary to make two measurements, one of the commodity, another of the money value. As the adoption of a definite unit of monetary value was the result of a long process of evolution, beginning with the barter of one article for another among the individuals of primitive races, so the measurement of commodities has, in a similar manner, been developed from what were at first mere rough comparisons. The names of many of the principal units in our present system of weights and measures, which we inherited from England, furnish in themselves a history of their origin.

The "Yard" was originally the length of the arm, which furnished the most convenient measuring stick. The "Foot" was literally the length of the King's foot. The "Stone" is a measure of weight still met with in England. The "Horse Power" tells its own story. Rough as these units were, their use marked a distinct step in progress from the practice of exchanging one article for another without comparison with any standard.

The progress of civilization has been marked by the continued addition of new commodities. Light, as a commodity, was added to the list when illuminating gas became an article of commerce about a century ago. The purchase and sale of light have, from the beginning, presented a curious anomaly in commerce; its co-relative money value has never been based upon a measurement of the thing itself, but upon measurements of the commodity from which the light is produced. Thus, in the case of gas light, it is the gas, not the light, that is measured. This custom has been maintained without deviation to the present time. It developed early in the progress of gas manufacture that the amount of light obtainable from a given quantity of gas depends upon the composition of the gas; also, that the gas giving the smaller quantity of light is the cheaper to make. The necessity for a means of measuring the light itself thus arose, and the science of photometry had its origin in this necessity. Naturally, the early methods of measuring light were crude and the results correspondingly inaccurate; but, crude and inaccurate as they were, they served their purpose of furnishing a means of determining, within certain limits, the illuminating value of the gas supplied. In the course of 100 years very considerable progress has been made in the science of photometry, yet it is to-day far from fulfilling scientific ideals as to accuracy.

But even light itself is not the ultimate thing sought in the use of luminate—it is only a means to an end; the end is illumination. Illumination is the visual effect produced when light falls upon objects. "Seeing things at night" is the final purpose for which luminants are made, and the plainness and ease with which the objects may be seen afford a general measure of the value of the illumination. From the luminant, or means of producing light, to the resulting illumination, there are, therefore, two steps: First, the production of light from the luminant; second, the utilization of the light produced to render objects visible. The importance of distinguishing between these two steps cannot be overestimated. The recognition that light and illumination are two distinct, though co-related things, has given rise to a new branch of applied science, called "Illuminating Engineering."

Luminants, such as oil, gas and electric current, are commodities which are capable of easy and exact measurement, and their money values may, therefore, be readily expressed in terms of such measurements, but the purchaser should clearly understand that he is purchasing a luminant, and not light or illumination. The amount of light which he obtains will depend upon the means for using the luminant, and the amount of illumination which he obtains from the light will depend in like manner upon the methods of utilizing the light. In a similar manner coal or other fuel may be purchased for generating power; but the amount of power finally obtained will depend, first, upon the kind of furnace used to generate heat; second, upon the kind of engine used to convert the heat into mechanical power. The important difference in the comparison lies in the fact that in the latter case there is no possible chance the purchaser will have any conception as to what he is buying, for a coal bill is never spoken of as a "power bill;" but, in the case of the purchase and sale of luminants, there is very generally a vague notion that light or illumination is the actual thing bought and paid for, as is evidenced by the common practice of referring to bills for luminants as "lighting bills." While the purchase of power may be accomplished through the medium of fuel and the necessary devices for its conversion into mechanical energy, no one will deny that its purchase upon a direct measurement of the power itself is a far more satisfactory method. The same principle applies to the purchase and sale of illumination; namely, that in order to set a money value upon illumination we must have the practical means for its measurement, within reasonable limits of accuracy, and before proceeding with the discussion of such measurement we must again call attention to the distinction between the measurement of light and the measurement in terms of candle power the term when unqualified referring to the intensity of the rays in some direction specified or understood, and when qualified by the phrase "mean spherical," signifying the entire quantity of light produced. Illumination is expressed in foot candles, the unit being the illumination produced by rays of one candle power

intensity at a distance of 1 foot from the source. To give this explanation may appear to some a reflection upon the intelligence of your members; but the misunderstanding of this distinction is by no means confined to the laity. As an example, a recent article by a college professor, in one of the leading scientific journals, spoke of "candle power of illumination."

If further evidence is needed of the general practice of confounding light and illumination, it can be found in any street in which arc lamps are used for producing illumination. It is known that the light giving power of an arc lamp is large, and it is, therefore, assumed that it is capable of illuminating a large amount of street surface, whereas the most casual observation will show that such is by no means the case, but that what an arc lamp actually does is to illuminate a very small area of the street with a high degree of intensity or brightness, leaving the remaining portion in comparative darkness. It is easy to conceive of a light source of great power producing no illumination whatever on the street; for example, imagine searchlights placed so as to throw their beams upward, no matter how thickly placed the illumination on the street would be practically nil. It is, of course, true that a large amount of illumination, which may mean either a large surface less brilliantly lighted or a small surface more brilliantly lighted, requires a correspondingly large quantity of light; but it is by no means true that the production of a large quantity of light results in a large amount of illumination.

To produce illumination the first essential is that the light should reach the objects it is desired to see. This constitutes the problem of proper distribution of the rays. In the second place, the light source must be so arranged as not to interfere with the eye in the process of seeing. Everyone knows that it is impossible to look past a brilliant light and see less brilliant objects beyond it. There is a scientific reason for this, but it is unnecessary to enter into its discussion here, for the fact is sufficiently familiar, at least to anyone who has ever attempted to distinguish objects beyond an open arc lamp.

To state that the object of placing light sources in streets is to facilitate the use of the streets by rendering the pavement and the various vehicles and objects within the street visible, is to state a fact so self-evident as to appear like a mere waste of words, but it is nevertheless true that lights put up for this ostensible purpose are not paid for on a basis of the extent to which they accomplish this declared purpose, and very frequently their money value is determined entirely independent of any consideration of light whatever.

This practice of paying for one thing and receiving another leads to trouble and dissatisfaction on the part of both buyer and seller. The two important steps intervening between the delivery of the luminant and the production of illumination have been entirely neglected. In the case of street lighting no public officer is charged with looking after these important functions, with the result that the most wasteful, unscientific and often ludicrous results are obtained. Any method, therefore, by which the final result, *i. e.*, illumination, can be measured and paid for should be a welcome innovation to both parties to the contract.

The whole question reduces itself to the one simple proposition: Can illumination be measured with sufficient accuracy, and with sufficiently simple apparatus, to make it a practical basis upon which to base money values? I believe that the present state of the science and art of illuminating engineering justifies an affirmative answer. The technical side of the question has been receiving a great deal of attention during the past year, and a number of new illuminometers have already been brought out, with promise of others to come in the near future. No one will claim that these instruments are capable of giving as accurate results as can be obtained in the measurement of light with a modern photometer in the hands of skilled operators; but it is unquestionably true that illuminometers, even in the hands of the non-professional observer, will give results at least as accurate as were obtained with the photometers used in the early days of commercial gas lighting. Furthermore, the widest errors of the poorest instruments are far less than the actual discrepancies in illumination which are the common result of the illogical practice that now maintains. The only way that illuminometers can be improved is by their practical use. If we are to wait until they are perfected before using them we may as well dismiss the matter altogether.

Assuming, then, we have an instrument by which illumination can be measured at any given point, and on a plane in any given position, what measurements should be taken as a basis of the payment for illumination? Before answering the main question must be answered.

First, shall the illumination be measured on a horizontal plane, a vertical plane, or a plane normal to the rays in a specified direction?

Illumination on a horizontal plane determines the visibility of the surface of the pavement; illumination on a vertical plane determines, in a general way, the visibility of objects in the street, while illumination on a plane normal to the rays from some particular direction determines the visibility of special objects, such, for example, as a watch face held for reading time, or a card for reading an address.

The illumination on the horizontal is affected by light rays from every direction, while illuminating on the vertical and on the normal plane is affected only by light rays received on one side. Objects in the street are seen only by the light coming from the direction which we are looking; in fact, the less light coming from the opposite direction the better.

Measurement on the vertical plane offers certain practical advantages. The position of such a plane is easily determined, and the measurement may be made without the observer throwing a shadow upon the measuring instrument. In street lighting, the minimum illumination upon a vertical plane is considerably greater than the minimum on a horizontal plane, and as the minimum illumination is frequently so low as to render its measurement difficult at best, it is desirable to avoid the difficulty as far as possible. The vertical plane may in a sense be considered a compromise between the normal and the horizontal planes. Its adoption as the standard plane for measurement would, therefore, seem to have the most advantages and the fewest objections.

The position of the test plane with reference to the payment is another important consideration. Theoretically it should be placed on the surface of the pavement; but there are practical objections to this position, chief of which is the physical inconvenience of making the measurements. The actual difference in illumination between the pavement and a point at a convenient distance, say 30 inches above, is so slight as to be negligible.

Having settled this preliminary question, the main question, as to what measurements should be used as a basis for the payment of street illumination, may now be discussed. With reference to the intensity of illumination, there are four different measurements which are determining factors in the general result:

Maximum illumination; minimum illumination; average illumination; illumination at a given distance from the basis of the lamp. Which one or more of these measurements should be used? Maximum illumination may be dismissed with little argument. Beyond a certain intensity, which is reached with all ordinary light sources at the present time, a high maximum illumination is a defect rather than an advantage, and if any use is made of it, therefore, it should be rather to limit it to a certain intensity.

Minimum illumination has many points of advantage. If a certain minimum illumination were specified, motives of economy would induce efforts to reduce the maximum to the lowest possible degree, with a result that a more nearly uniform intensity of illumination would be obtained; and this is the one most desirable improvement to be sought for over the methods that now prevail in street lighting. There are a considerable number of cases, however, in which the minimum is so low as to render its measurement too inexact for practical purposes.

This brings out the fact that street lighting may be divided in two quite distinct c'asses: First, ***street illumination***, in which every part of the street is sufficiently illuminated to make it plainly visible; and second, what may be termed beacon lighting, in which no attempt is made at general illumination of the entire street, but merely to use a sufficient number of light sources to indicate the direction and location of the street. The name is suggested by the similarity of this kind of lighting to the use of lighthouses in harbors and waterways. Beacon lighting forms by no means an inconsiderable part of street lighting. In fact, it is not improbable that the total number of miles of streets lighted in this manner is larger than the mileage of illuminated streets. This cannot generally be set down as a fault. There are a great many cases in which this kind of street lighting serves the purpose sufficiently well, and in which the use of a large enough quantity of light to illuminate the entire length of the street would be unjustifiable expense. If minimum illumination is to be taken as a standard, upon which to base street lighting contracts, it is evident that it can only be applied to those streets which may be classed as "illuminated," leaving beacon lighted streets to be provided for on some other basis.

Average illumination is evidently subject to the same limitations as minimum illumination; *i. e.*, it would be practically unsuitable for beacon lighted streets.

Illumination at a given distance from the base of the light source

offers a way out of the difficulties presented by minimum illumination, and is the method recommended by the Committee of the National Electric Light Association which had the matter under advisement last year. This method amounts practically to the use of the intensity of the light given out by the source at a certain angle. This is theoretically objectionable, as putting a premium on freak illumination; *i. e.*, illumination which has its brilliancy concentrated in one given spot. Practically, however, this objection is of little force, since there are no available means of abnormally concentrating the light at an angle beyond 45°. The actual working of such a standard would, therefore, be to secure a minimum illumination at the stated distance from the lamps, and a higher degree of illumination between that point and the base of the lamp. The height of the lamp must of course in such a case be specified.

In the case of street illumination, as distinguished from beacon lighting, there seems to be no practical objection to the use of minimum illumination as a basis. This method, carried out in its fullest sense, leaves the whole question of light sources, height, distance apart and accessories used, wholly within the choice of the seller. The result of making this the basis of a contract would invariably be the use of light sources of small candle power, except possibly in the rare cases in which a very high minimum was specified for the purpose of producing spectacular effects. In this case arc lamps would probably hold their own, but in most other cases would be hopelessly outclassed by incandescent electric or gas lamps.

The electric lighting interests have frankly admitted their opposition to such a method of measuring street illumination, for the reason that it would give the advantage to the light; but this is only one side of the story. If better street illumination can be produced at less cost with gas than electricity, the public—*i. e.*, the buyer—will naturally demand gas lighting; what the public wants is the best illumination for the money expended, and is quite unconcerned whether this is produced by gas or electricity, with arcs, or incandescents or what not. It may be stated as a safe prophecy that what the people want they will in the end have. Ignorance or artificial conditions may for a time restrain the march of progress, but the fittest will always survive and come to the front.

In the case of beacon lighted streets the only possible method of basing it upon the measurement of illumination is by the illumination produced at a given distance from the base of the lamp placed at a given height. As previously stated, this amounts practically to specifying a lamp having a certain distribution of its rays, and it would be simpler and more satisfactory to make such a specification at once.

The payment for street illumination on the basis of the illumination produced offers advantages to both buyer and seller. The buyer pays for the actual goods delivered; it puts a premium upon progress and improvement, of which the producer will reap the first advantage. Thus, if a more efficient form of lamp is developed, by which the stated illumination can be produced at less cost, it is obvious that the producer will be the gainer, at least for a greater or less length of time.

A reform, therefore, which works to the advantage of all parties and to the disadvantage of none, is worthy of at least a most careful and serious consideration. That there is ample need of reform in the general practice of street lighting both professionals and laymen must agree; and there is no surer means of inaugurating such a reform than to make better practices profitable to all concerned.

The President—The next paper on the programme is:

MUNICIPAL OWNERSHIP IN NEW YORK STATE,

by Mr. Glen Marston. The author read as follows:

The report of the National Civic Federation is practically the only manifestation at present of municipal ownership. The condition of the money market has been such as to cause a complete check to schemes for issuing more bonds than are absolutely necessary for current purposes. Should the attitude toward municipal bonds remain as unfavorable as it is at present, there is little doubt that a serious check would be given to the plans of municipal ownership advocates. When there is no prospect, as at present, of readily selling municipal bonds, it is a difficult matter to persuade taxpayers to authorize such bonds, particularly when the proceeds of these bonds are to be invested in a speculative enterprise which is likely to lower their value still further.

However, unless the usual reaction fails to take place, this will be only a temporary condition, and should not lead those interested in staving off municipal ownership to cease their efforts to show the public the true situation in regard to the unreliability of municipal reports and the mismanagement which seem to be the rule under public ownership. The very existence of these conditions offers an opportunity to show up the evils of municipal ownership at the present time without being accused of any ulterior motive. Another cause for the temporary lull in the "M. O." propaganda is the severe defeats in Chicago and London last spring, but perhaps the most important cause in New York State is the establishment of the Utilities Commissions. If these prove a success—that is, if their actions and findings meet with public approval, municipal ownership will become one of our lesser troubles in this State. If, on the other hand, the people of the State feel that they are not getting a square deal—if the Commissions do not come up to the public expectations—we may expect a wave of sentiment in favor of municipal ownership that will rival Banquo's ghost in its refusal to be downed. Also, if the Commission's rulings are such that companies must go into the courts to protect their rights, or even their very existence, the public disfavor caused by these actions will lead only to one direction. It is certain that decided unpopularity will be the portion of those companies that fail to peaceably abide by the Commissioners' decisions.

As far as the present municipal plants in this State are concerned, they are in much the same shape as those all over the country. It is interesting to note, however, that the total population of all the cities in which there are municipal plants is less than 150,000—about two-fifths of 1 per cent. of the population of the State - so you see municipal plants are not yet a serious matter.

It is the general dissatisfaction with corporations and the constant agitation in favor of extending municipal ownership as a means of overcoming the present real and fancied grievances for which corporations are responsible that constitute the real menace to the gas and electric interests of the State, as well as to civic treasuries. Municipal ownership is far more dangerous as a potentiality than as a reality. It is not going to stop where it is. It will be a difficult matter to secure the abandonment of plants already in existence, for they constitute too valuable a political asset, either in a financial way or as a ready-made "issue," which can be made a rallying point in any doubtful campaign.

With the able assistance of Mr. Hearst and his hirelings, the movement is almost bound to make progress. Only the most energetic work on the part of the opposition will keep it down. Every opportunity must be utilized to show the utter futility of remedying through municipalities such misunderstandings as exist now between the public service companies and their patrons.

It is well to emphasize the fact that, whatever material advantages may accrue to lighting companies from the death of municipal ownership, their share in the asphyxiation is by no means wholly selfish. In helping to stifle the socialistic tendencies of the municipal ownershippers, they are rendering a real service to the communities they serve. The general commercial and industrial stagnations which follow an impaired municipal credit are often outshone by the glamor of unfulfillable promises, and the company which saves a city from entertaining such a proposition should be recognized as an unprejudiced worker for the public welfare.

I do not propose to give you a bunch of statistics to show the standing of municipal ownership in New York. Your Secretary has gathered a great deal of valuable data which is at your service. There are other organizations which have large accumulations of information which can be used as ammunition in the subjugation of the Hearst hosts. It is, therefore, quite unnecessary for me to go into details here which I can give you in a much more usable form. Considering Mr. Chapin's manifold duties, he has done remarkably well in securing what matter he has regarding municipal ownership.

It seems to be a general tendency among companies to put off discussing municipal ownership until the opposition stirs it up, on the ground that it is not good policy to wake a sleeping dog. My own idea is that it is a great deal safer to chloroform the dog while he is asleep than to wait until somebody comes along and kicks him in the ribs, particularly when his head is pointed in your direction. If you all realized what has already been done toward showing the public that municipal ownership is nothing but a case of politics, you would not hesitate to bring the matter up in your own communities. The people are always open to reason, unless they have been swept off their feet by demagogues and political agitators. You can readily see that your argument will not stick when you are being called a self-interested liar by your opponents. If a man has an established conviction that municipal ownership is a good thing, due to the constant activity of the "M. O." advocate, it is pretty hard to show him its weakness. On the other hand, if you profit by the example of those favoring municipal ownership, you will find that the average man is

open to your argument if you get after him first. You will find it much simpler to convince a man than to convert him. As practical gas and electric men, you are better fitted than anyone else to demonstrate to the public the true meaning of municipal ownership. If you have insufficient data on hand regarding the actual operation of municipal undertakings, get it from someone who has it, and work up a comparative showing between that data and data on your own plant. And let me say right here that if lighting companies gave a little more attention to enlightening the public on the difficulties of operating their plants and on the conditions which permit a low rate in one town and compel a high rate in another, there would be more hesitation in taking up municipal ownership. The report of the Civic Federation can be used as a mallet to drive home that argument. It is one of the few unanimous conclusions reached by the Federation's committee. It is ignorance, in 9 cases out of 10, that breeds discontent. Do not wait until you are subject to criticism for arguing in self-defense before you talk municipal ownership. I have heard it said by managers that they fear to stir up an agitation by presenting the true facts regarding municipal ownership; but although I have known a great many places where educational work has been done, I know only one where it provoked the opposition to action, and there the opposition was at work before the matter against municipal ownership was published. The result, even under these circumstances, was good, however, for it gave the paper opposed to municipal ownership an opportunity to drive home arguments by showing the absolute falsity of the contentions of its rivals.

On the whole, the idea that the presentation of facts will surely call forth other alleged facts in refutation has practically no justification in experience. Many companies that are really the most deeply interested taxpayers in their respective communities, wait until they are actually cornered before making any serious effort to counteract municipal ownership sentiment. Then they occupy the interesting, but undignified, position of a chicken trying to dodge an automobile.

Electric companies do not find that aggressive competition by gas companies is necessary before they can push their business. No more is it necessary that they should wait for an aggressive municipal ownership campaign before they take steps to head off sentiment in that direction. The present quiet situation in almost all New York cities offers an exceptional opportunity to do good educational work. The report of the Syracuse Lighting Commission is emphatically against municipal ownership, and is particularly valuable because it includes careful analysis of several of the so-called most successful municipal plants in the country. The findings of the Commission are that the accounting systems of these various plants are defective, and that, when figured on a complete cost basis, as necessary in a conservative business corporation, the price is not lower than the present contract price in Syracuse. The value of this report can hardly be overestimated. Such men as E. W. Bemis, one of the foremost of "municipal ownershippers," appeared before the Commission. The Trade Union Organization voted in favor of municipal ownership, and had a representative address the Commission. Pressure of every possible sort was exerted to bring the Commission to a commitment in favor of municipal ownership. Instead, this body of sober business men, disinterested, except for the welfare of their city, decided not only that municipal ownership was undesirable for Syracuse, but presented figures showing that the alleged success of many municipal plants was far overrated.

The most important failure of municipal ownership in this State (probably in this country) is that of the city of New York in its attempt to light the Williamsburg Bridge. The plant was recently abandoned because its operation cost twice as much as similar service by the Edison Company. When New York, with every facility for cheap operation, with more competent men obtainable than any other city, with fuel which was supposed to cost nothing (the city burned garbage) cannot manufacture current for less than twice what a company charges, including a profit to that company, what may we expect of other cities less fortunately situated?

On March 26, 1906, Commissioner Woodbury stated that the profit to the city was 40 per cent., a statement which was given wide publicity. Less than a year ago (December 26, 1906) the "Municipal Journal and Engineer" called the plant "the most successful ever installed in America." The *Evening Post*, of December 30, 1905, said, "For all that light the city does not burn an ounce of coal or pay a cent to the gas monopoly." Information as to the amount of coal used has been refused, but it was by no means small, and the city also paid $6,000 or $7,000 a year to the Edison Company in lieu of reserve equipment, according to the engineer in charge.

Comment is unnecessary on last year's reported success and this year's acknowledged failure. Such incidents are becoming too common in these days. The average life of a municipal plant is about 15 years. Some drag on for more than that, bolstered up by political promises and unwarranted expenditures and others, as in the Williamsburg Bridge case, frankly admit failure and throw up the sponge. Perhaps if the New York municipal plant had as large a pay roll as the Street Cleaning Department has it would have been considered of enough importance as a political graveyard to justify its continuance, As it is, the expense and the advantages did not tally, and the city must seek room in other departments for its superfluous employees.

Our conclusion must be, then, that in New York State at the present time there is little danger from municipal ownership. The future is in your own hands, and it all depends upon your own individual efforts whether the question will become a greater menace. Unless advantage is taken of the present receptive mood of the public, it is certain that there will come a time when the hue-and-cry for the people's plants will again rise up, and you will only have yourselves to blame for a neglected opportunity.

The President – I think a very hearty vote of thanks is due those gentlemen who prepared and read papers before us, for the time, trouble and pains and for the labor bestowed in the preparation of these papers.

On the motion of Mr. Beal, the thanks of the Association were given to each of the gentlemen who prepared and read papers at the meeting.

The President – We certainly should pass a motion to extend our thanks to the Edison Company for the use of the meeting place.

COMMITTEE ON TAXATION.

The President announced that he had appointed Messrs. T. R. Beal, L. T. Palmer and S. R. Bradley, Jr., as the Committee on Taxation.

ELECTION OF OFFICERS.

The Committee on Nominations, through Mr. Emerich, presented the following as office bearers for the ensuing year:

For President—Mr. S. R. Bradley, Jr.
For Vice-President—Mr. P. T. Glidden.
For Treasurer—Mr. T. O. Horton.
For Executive Committee—Messrs. Arthur Williams, W. T. Morris and R. M. Searle.

On motion of Mr. T. R. Beal, the Secretary was instructed to cast the ballot for the gentlemen named. He subsequently reported that he had complied with the instruction, and his report was ratified.

Mr. Bradley – Mr. Chairman I regret very much that the Committee considered my name at all. In the first place I do not feel competent to swing the job, and, in the second place, my other duties almost prohibit it. My occupation is not alone in the lighting business, but my days are all very much filled. I think every man here knows what a lighting man's job is. He certainly has a full day, and I am adding to that now, and I honestly cannot give the time necessary to the important work which should be done here in holding office or as a member of any important committee in this Association. Much as I regret it I shall have to decline the honor.

The President We are very sorry to hear that Mr. Bradley feels as he does about this matter, as a number of the members of this Association were very much in hope that he would accept the position. We feel that Mr. Bradley is the man to take charge of the Association during the coming year. It is to be a year of very important work, and we all hope he will reconsider his determination.

Mr. Cole—Mr. President, 2 years ago I gave a like excuse to that given by Mr. Bradley, but the members opened a sidetrack, put up a block signal and ran me in on it.

The President – The Secretary declares that the ticket has been elected.

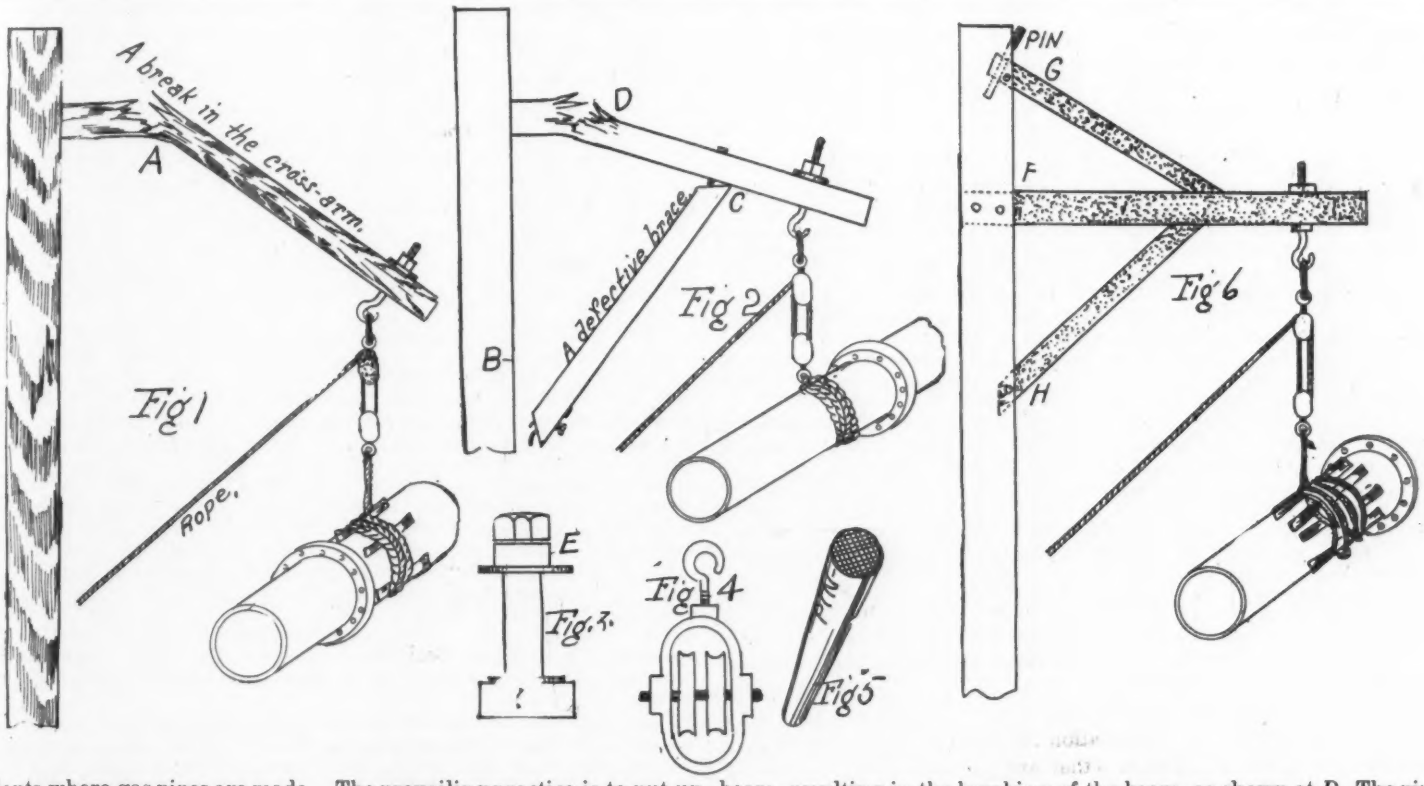
Mr. Cole – Before the meeting closes, I would offer a resolution that this Association extend a vote of thanks to Secretary Chapin for the very efficient and energetic work performed by him during the year just passed. [Seconded by Mr. Beal and unanimously adopted.]

The President thereupon declared the adjournment.

Home-Made Hoisting Devices in the Gas Works.

[Prepared for the JOURNAL, by "R."]

You can find some curious contrivances rigged up at gas works for purposes of hoisting pipes to various levels. There are projecting arms, cantilevers, uprights, cross beams and various patterns of devices in use for this work, many of which are constructed exceedingly weak, while others are unduly strong. The insertion of a common wooden beam into an upright, masonry wall, post, sidewall of building, or other place, is often practiced. There are occasions on which gas pipes are hauled from the road level to upper stories for storage, or for treatment in machine shops. In fact, one may find several different reasons why hoisting devices are in use in gas works or at



plants where gas pipes are made. The prevailing practice is to put up a cantilever form of beam. Usually a pitch pine piece about 5 feet long is selected; the dimensions are about 5 by 7 inches, and necessarily a piece of timber is found in which there are no flaws. While the testing strain of this 5 by 7 piece may be more than 2,000 pounds, when supported at either end, the piece might break at less than half that strain in the event of there being a flaw in the piece. A knot hole or uneven juncture of the grain at the critical point would greatly weaken the piece. Hence, the first object is to choose a piece of timber in which the grain is even and in which there are no knots. As the piece cannot very well be supported at the exterior terminus, the supporting point is at the base of the beam.

It is the common practice to construct these cantilever forms of hoisting devices by simply inserting the inner end into the timber work or masonry of the building. The piece which projects inside the building through the hole made in the wall is braced with clamping pieces of wrought iron. The latter pieces are set-screwed securely to the floor beams; but the securing factors inside the wall work do not in any way strengthen the beam proper on the exterior. Therefore, while the writer was examining some different styles of hoisting devices in gas works and gas pipe making establishments, it was not an uncommon sight to witness an accidental fracture of the nature exhibited in Fig. 1. Here we show the cantilever, or arm projecting outward, lacking support at the terminus or at an interval along the line of the arm, broken off at *A*, as a result of the strain put upon the same in the hoisting of the pipe.

With a support at the end an accident of this character could be avoided; or with a central support, the strength of the beam would be greatly increased. If the weight is distributed over the length of the beam, the life of the beam under great strain is extended. But, as before intimated, it is essential to have the space under the beam, and terminal supports and sometimes central supports cannot be employed. Nor can means be provided for the distribution of the weight over all of the beam. The weight comes at or near the end, and unless a way can be found to add some bracing element, without interfering with the work to which the device will be put, the chances are that the users of the device will have to limit the weight applied each time.

But workmen get careless, and they will not stop to consider the strengths of beams, hence accidents of the nature shown in Fig. 1 happen now and then. Sometimes important and expensive pipes and connections are ruined by a fall due to the breaking of the hoisting device. In one place I noticed that, in order to strengthen the hoisting devices, braces were inserted from the lower side of the cantilever to a point along the line of the upright. In one gas works where they were hoisting heavy mains with one of these devices the brace was forced out of position by the loosening of the fastening bolts as at *C* and *B*, thereby allowing the strain to come upon the beam, resulting in the breaking of the beam, as shown at *D*. The pipe fell to the car truck below with a crash, destroying the platform of the car and wrecking the pipe. It is quite essential that the bracing pieces be properly fastened with a good brace, the ends sunk into the woodwork enough to afford a grip and the bolts properly secured, the brace will remain in place under severe strain. In one case it was proven that the brace loosened owing to the fastening bolts getting free. It was found that the vibrating of the hoist device had made the nuts on the bolts work free and come off. To avoid this, bolts with lock nuts, as at *E*, may be used. The lock nut can be turned down so securely on the base nut that the latter cannot possibly work free of its own accord. It will have to be started back with a wrench, after having first loosened the lock nut. The straining of block and tackle, the breaking of some part of the same, or any unduly accounted for action may create a break in the cantilever or some part of it.

At one gas pipe repairing shop where they had to haul gas mains to a second floor for machine work purposes, they operated the draft rope on a windlass of an engine. The blocks of the tackle were crudely constructed, as in Fig. 4. One day the rope ran off and got in between the hubless wheels. The engine kept on pulling, and as the rope could not be drawn, it simply tightened up under the strain, which strain increased until something had to give way. This was the cantilever. The latter was broken off short and the entire rigging came down.

Then, again, I notice that the wooden pin has not as yet disappeared from the derricks and hoisting devices of the gas works.

While the smooth, properly tapered hardwood pin is a valuable piece of property in the setting up of frames of wood, it should not be depended upon to too great extent in the fixing together of parts of cantilevers for purposes of hoisting objects, The constant straining back-and-forth and to-and-fro of the cantilever, under the action of the block and tackle and the weight, makes the pins work free. They come out and the hoisting device may come down. Fig. 5 is one of the tapering styles of pins sometimes seen in use for this line of work.

At one works where they were hoisting gas mains I saw a rigging put up as shown in Fig. 6. This consists of the upright with the cantilever braced at the top and at the bottom. The cantilever itself is inserted securely into place at *F*, and is pinned there to prevent slipping out.

The lower brace is set slightly into the upright by cutting out, as at *H*. The upper brace is pinned to position, as at *G*. For ordinary purposes a hoisting device of this pattern serves all the purposes and may be used to great advantage. I saw braces made of wrought iron. You will find metal brackets and all kinds of arrangements fixed up for the purpose of hoisting piping. Some of the contrivances are shabbily erected and break down quickly, whereas others that are constructed with care and expense last indefinitely.

[Concluded from Page 806.]

Main Points of Interest in the Decision of the Wisconsin State Railway Commission in Respect of the Application of the La Crosse Gas and Electric Company for the Right to Charge Higher Rates.

Rates Too Low.—"The situation is about this: Under the present rates the earnings derived from the business are not sufficient to meet the operating expenses and full maintenance of the plant. If this should be permitted to go on indefinitely a situation might easily develop under which the plant would become incapacitated to furnish the city with the necessary amount of lighting. In view of these facts, and also in view of the fact that the present rates are much lower than the rates charged by any other plant operated under similar conditions that we have been able to find, it appears to us that it is in line with public policy that the rates now charged by the petitioner for electric current should be raised to a more remunerative basis, and it is our determination that this change should be made."

Cost of the Service.—The decision then takes up one of the most important features of the problem—the cost to the corporation of serving each class of customers. On this point the Commission says:

"When the fixed expenses are prorated upon the total kilowatt hour capacity of the plant, which was 10,950,000, and the variable expenses are prorated upon the actual kilowatt hours sold, or upon 1,705,118, the cost per kilowatt hour for the consumer who consumes current or who uses his lights 24 hours daily will be found as follows:

"Fixed expenses, 0.83 cent per kilowatt hour; variable expenses, 2.87 cents per kilowatt hour; total, 3.60 cents per kilowatt hour. When the fixed expenses are prorated upon about 4.17 per cent. of the total capacity, or upon about 456,255 kilowatt hours, and when the variable expenses are prorated upon the kilowatt hours sold as above, the cost per kilowatt hour for the consumer who uses his lights only 1 hour per day will be found. It is approximately as follows: Fixed expenses, 19.90 cents per kilowatt hour; variable expenses, 2.87 cents per kilowatt hour; total, 22.77 cents per kilowatt hour. If the expenses are separated, between fixed and variable on the other basis outlined above, that is, if rental, depreciation, interest and certain other items are divided between both the fixed and variable expenses, instead of being classed as fixed expenses entirely, the results will be somewhat different from those already presented. In that case the cost per kilowatt hour would probably be close to 5.50 cents for those who used the current 24 hours daily, and not far from 15.50 cents for those who use the lights about 1 hour per day only."

The difference in the cost to the corporation in serving patrons for a longer or shorter time per day is then shown to be as follows:

"The respective total costs for 2, 3, 4, 6 and 8 hours' use per day are as follows: Two hours daily, 11.48 cents per kilowatt hour; 3 hours daily, 8.48 cents per kilowatt hour; 4 hours daily, 7 cents per kilowatt hour: 6 hours daily, 5.50 cents per kilowatt hour; 8 hours daily, 4.74 cents per kilowatt hour."

The New Schedule.—Referring to the new schedule, favored by the Company and established by the Commission, the State body says:

"In fact, the schedule itself, which can almost be said to be a combination of the 'readiness-to-serve' and the 'maximum demand' methods, is so made up that it appears to fairly meet the requirements in this case. This is significant. It constitutes a strong argument in favor of its adoption. As intimated, however, the adjustment to the cost is not uniform for all the rates. The highest rates in the schedule, for instance, or those for 60 hours or less per month, are somewhat lower than the indicated cost of the services rendered to these classes of users. The reason for this, however, is not found in the faulty method of computation, but in a city ordinance which limits the maximum rate to 10 cents per kilowatt hour. Now it so happens that the cost for the 1 hour and for 1½-hour consumer is greater than 10 cents. Even those who use the current equivalent to 2 hours daily may almost be included in this class. Under the proposed schedule, therefore, the short hour customers, who comprise mostly the residence district, will contribute relatively less to the revenues of the Company, when measured by the cost, than the long hour customers. This is an inequality, however, that it is difficult to adjust so long as the present ordinance remains in effect. It is, of course, possible that it may be obviated by radical improvements in the methods of operation or production, but the chances for this are rather remote."

The Rates for Power.—"Some of the rates for power, as given in the schedule, may appear to be lower than warranted by the cost in these cases. It is true that these rates are quite low, but it is not clear that they are unprofitable. Upon an examination of the facts it will be found that there is a great deal to be said in favor of comparatively low rates for power. The maintenance charges for the distribution of power current are lower than for lighting. The consumption of current, both as to maximum demand and hours used, is also much greater in the former case and this materially reduces the cost per unit. Power current is produced during that part of the day when little or no other current is used, or while the plant is simply holding itself in readiness to supply such demand for lighting as may be made upon it. There may also be sharp competition between the electric plants on one hand and steam and gasoline plants on the other. For these and other reasons it is customary everywhere to grant much lower rates for power than for lighting."

New Charges are Low.—That the new schedule of rates is lower than those in effect in any other city within or without Wisconsin, is held. The decision says:

"It further appears that the proposed rates are somewhat lower than those charged in other cities, both inside and outside of this State. The comparisons we have made upon this point are quite extensive. They embrace at least 20 cities in Wisconsin and fully as many in other States. These facts are of considerable importance, not only to the petitioner, but the people who are served by this Company.

Duty of the Corporation.—"The petitioner has duties as well as rights in this matter. While it is entitled to reasonable rates for services it renders, it has not the right to exact more than this. It must also see to it that the services it renders are adequate and that they meet all reasonable requirements in this respect. It is as important that the interests of the public it serves should be as fully protected as those of its own. The best rates are those that are based upon the cost. Each customer should under ordinary conditions contribute his just proportion of all the expenses, as well as of the interest upon the investment.

"From the foregoing examination of the facts involved in this case it appears to us that the rates submitted by the petitioner fairly meet the situation, and that they are just and reasonable. It has been determined, therefore, that these rates shall be put into effect, subject, however, to such revision as may be found necessary when the plants in question have been appraised, or for other reasons. The causes which led to this application, and because of which an increase in the rates is authorized, are of such character as to bring this case within section 99, chapter 499, laws of 1907, which provides for emergency rates under certain circumstances. As soon as practicable after the appraisals of the plant, which have been decided upon, have been made, it is our intention to continue this investigation. Any of the rates in the order herein which are then found to be in any respect unreasonable will be promptly adjusted upon a fair and equitable basis. It is, therefore, ordered that the petitioner in this case, the La Crosse Gas and Electric Company, in lieu of the rates it now charges for electric current for lighting and power, shall substitute the following maximum rates:

Lighting Rates.—"The service charge on all lighting and installations shall be $1.80 cents per year per 16-candle power lamp, or equivalent demand, 1½ of connected installation, or when one-third of the connected installation is considered to be the demand. The meter rate for a consumption equivalent to 60 hours or less per month per each installation shall be 7½ cents per kilowatt hour. The meter rate for a consumption equivalent to more than 60 hours per month per each installation shall be 6 cents per kilowatt hour. The meter rate for 'patrolled service,' or for signs and other installations with fixed hours of use, shall be 5 cents per kilowatt hour.

Power Rates.—"The service charge shall be $27 per year per horse power demanded. The meter rates for less than 5 hours per day per horse power demanded shall be 5 cents per kilowatt hour. The meter rate for over 5 hours, but not exceeding 10 hours per day per horse power demanded, shall be 3 cents per kilowatt hour. The meter rate for over 10 hours per day for horse power demanded shall be 2 cents per kilowatt hour."

ITEMS OF INTEREST FROM VARIOUS LOCALITIES.

From the returns submitted to the proprietors of the Pacific Gas and Electric Company, of San Francisco, Cal., for the twelvemonth ended June 30th, 1907, it is shown that: The San Francisco Gas and Electric Company had 46,663 meters in use; 520 miles of street mains were in active service; the gas sales amounted to 2,253,000,000 cubic feet. The California Gas and Electric Company operates in 23 counties of California; has 657 miles of mains, 1,500 miles of electric transmission lines, 55,000 gas meters and 31,000 fuel gas appliances in use. During the year its output amounted to 1,785,000,000 cubic feet.

Mr. Arthur J. Smith has resigned from the service of the Peoples Gas Company, of Manchester, N. H., to accept the post of Superintendent of the St. Albans (Vt.) Gas Company. His successor is Mr. O. P. Evans.

"J. F. T., writing from Fall River, Mass., under date of the 1st inst., incloses the following, from the Fall River *News*, respecting the nearby district of Tiverton: "The Tiverton Gas Company, under the management of Mr. William Handle, is giving its customers service that is receiving much praise. The Company is constantly taking on new houses and improving and increasing its business. The community hardly realize what it is to have a gas company established here and the benefits that it brings. The men who have put their money into this enterprise are men that have the welfare of the town at heart and they should receive every encouragement. The more customers they have the cheaper they can furnish the gas, although at the present price it is very reasonable."

Mr. J. F. Bippus, who, with his associates, is in control of the gas supply of Huntington, Ind., is arranging for the construction next year of an artificial gas plant which will be fully up to the needs of that thrifty city. The natural gas supply is all but at an end in Huntington, and the people have been so educated in the use of gas for fuel, through their 18 years' acquaintanceship with natural gas, that they will not be satisfied with solid fuel—particularly so in respect of their kitchens.

THE inability to float gas securities of the most approved nature is responsible for the stoppage of much projected new work. A striking illustration of this is shown by the instructions received a few days ago by Mr. C. H. Geist, Manager of the Lansing (Mich.) Fuel and Gas Company, who, when asked why work was being discontinued on the new plant well underway for the Lansing Company, replied: "We have acted under instructions from the head office in Chicago, which, of course, did not contain explanations as to the reasons for this action. Under the orders received, however, the contractors who are erecting the plant are simply putting things into shape to be safe and beyond injury during the time the work is discontinued. As to how long the work is to be stopped, I have no knowledge. We are also abandoning all extensions and necessarily reducing our operating force by reason of not needing any more new business. Mr. Geist further said that the present financial situation throughout the country was the cause of the stoppage."

MR. A. F. TRAVER has resigned the position of engineer to the Grand Rapids (Mich.) Gas Light Company to accept the Superintendency of the Chattanooga (Tenn.) Gas Company. Mr. W. Seymour succeeds Mr. Travers at Grand Rapids.

MR. A. B. EILBECK has been appointed to temporarily (with the likelihood that the appointment will become permanent) manage the affairs of the Chattanooga (Tenn.) Gas Company, vice Mr. J. M. Robb, whose unfortunate and mysterious disappearance some weeks ago caused his friends exceeding anxiety. Mr. Eilbeck, however, retains his interest in the Akron (O.) Company, to which place he went in 1904.

MR. JAMES S. HEMINGWAY, Treasurer of the New Haven (Conn.) Savings Bank, has been elected to succeed the late Mr. Robert A. Brown on the Board of Directors of the New Haven Gas Light Company. No other man actively engaged in business in Connecticut is more respected than Mr. Hemingway.

GAS was turned into the mains of the South Range (Mich.) Gas Company the last week in October. No hitch occurred, but the people are asking themselves, "Why did we not have gas long ago?" South Range has had an electric lighting supply for several years.

THE St. Paul Automatic Gas Company of Montreal, Canada, has been placed in the hands of a receiver at the demand of The James Robertson Company, Limited.

Now this statement is made concerning the proposed merger between the named companies, although less than a month ago the pronouncement respecting it was made in the strongest terms: "The merger is not in contemplation between the Woonsocket (R. I.) Gas Company and the Woonsocket Electric Machine and Power Company for the interests of the city and those of the companies will be better served by two separate corporations, one in furnishing electric lighting and the other in furnishing gas lighting. While the advisability of a merger between the Woonsocket Gas and the Pawtucket Gas Companies has also been discussed the present possibilities are that this plan will not be consummated for some time and must be abandoned, for there does not appear to be material advantage to either Company in the scheme." This statement emanated from a financier quite competent to speak by the card.

WE are well pleased to report that Mr. B. B. Ferguson, Superintendent of the Portsmouth (Va.) Gas Company, has returned home after a protracted rest in the mountains, greatly improved in health.

MAYOR DIMMICK, of Scranton, has put his signature to the resolution passed by the City Councils instructing the Director of Public Works, the City Solicitor, the Mayor, and, acting with a committee of 3 members from each councilmanic branch to arrange for an option on the plants of the Scranton Gas and Water Company with a view to acquiring same for operation on municipal account.

THE Real Estate Exchange of Omaha, Neb., recently appointed a committee to investigate the merits of the proposition which arranged for the issuance of bonds in the sum of $3,500,000 for the purchase of the local gas plant. The committee comprised Messrs. W. F. Graham, C. F. Harrison and W. L. Selby—three of Omaha's best posted business men—and their recommendation to the Exchange, as the sequel to their investigations, was a positive "No."

THE proprietors of the Roanoke (Va.) Gas and Water Company have purchased the Muse farm, at an expenditure of $35,000, which addition to the Company's holdings will give it an additional source of water supply up to 2 million gallons daily.

THIS correspondence explains itself, although it might be well to add that it came from the fact that at the last meeting of the Pacific Coast Gas Association, a Wrinkle (No. 9) was read, which described the general plan of a scrubber arrangement for the recovering of ammonia and other bye-products. This Wrinkle was published in *the Journal of Electricity, Power and Gas*, dated October 12th, without the consent of Mr. Berkeley, and that gentleman wishes it plainly understood that the apparatus will be manufactured and put upon the market, by virtue and through the means of the letters patent issued to him.

LOS ANGELES, CAL., Oct. 26, 1907.

To the Editors AMERICAN GAS LIGHT JOURNAL: I beg to call to the attention of the gas fraternity through your columns, and the inclosed letter, signed by H. W. Burkhart, as a warning against the appropriation and use of a scrubber arrangement for the recovery of ammonia and other bye-products, a general plan of which was published as Wrinkle No. 9 in the *Journal of Electricity, Power and Gas* without authority from me. The same will be put upon the market as a manufactured article and sold under my patents.

Yours truly, JOSEPH M. BERKELEY, Engineer.

Mr. Berkley's disclaimer:

LOS ANGELES, CAL., Oct. 24th, 1907.

Mr. J. M. Berkeley, 509 Wilcox Building, city.—My dear Mr. Berkeley: Referring to the misunderstanding which has arisen regarding the shake scrubbers, you will, I am sure, take my word for it that the publication of the item in the Pacific Coast *Journal of Electricity and Gas*, through the Proceedings of the Pacific Coast Gas Association, was simply and purely a desire on my part to present what appeared to me a good wrinkle in the gas business. Coming, as I did, into the gas department of the Edison Company, and discovering it in use, without knowing that any application had been made for a patent covering it, and not having received any instructions whatever, I simply wanted to give my confreres in the gas business what I considered was a "good stunt." There was no intention whatever on my part to invalidate any claims, neither is there yet any intention to do so; and this letter is written to you so that you and all others may understand the situation, and to prevent any legal complications in the issuance of letters patent to you.—Yours truly, H. W. BURKHART.

A CORRESPONDENT in St. Louis, Mo., writing under date of November 2d, says: "Dear JOURNAL: This week the Laclede Gas Light Company won out in a lawsuit, the novelty of which was sufficient to attract much attention, which was all the more remarkable since there was nothing whatever of sensationalism attending it. The trial was held in the Circuit Court, Judge Shields presiding. Some months ago certain office buildings, Nos. 716 and 718 Locust street, St. Louis, were occupied by the Laclede Gas Light Company under leasehold, the tenure of which has some years to run. The rental for the term was $7,000 per annum, but owing to the great development in that part of the city in which the premises are located the rental value of the said premises had increased very much it was shown on the trial that a fair rental value for the property now would be $15,000. One provision in the lease was that either side might terminate the lease, if the building became uninhabitable. Last December the structure was badly damaged by fire, whereupon the lessors (Mrs. Thedosia W. Pleadwell and Miss Henrietta Wallace, sister of the former) brought suit to terminate the lease under the uninhabitable clause thereof. The testimony was all interesting, even if some of it did seen rather 'stretched' to enable the ladies to regain possession. Judge Shields held that the premises were not rendered uninhabitable by the conflagration, although it is likely that the temporary offices were not the likeliest locations in St. Louis in which to transact business, right after the fire and during the restoration of the building. The precautions taken at the time by General Manager Beggs and Secretary Holman in the instance of 'holding the fort' were well and swiftly taken as the sequel amply proves.—W. W. M."

MR. EDWIN FOY HYLAND, recently appointed official gas analyst to the city of Detroit, is actively at work. He is a graduate of the University of Michigan—he obtained his Degree last summer—and was recommended for the position by Prof. Andrew D. White of the University.

SOME time ago the proprietors of the Georgetown (D. C.) Gas Light Company decided to increase the capital from $150,000 to $300,000, whereupon Mr. C. M. Payne was appointed to determine whether or not the issue could be made with reason on the basis of the real value of the property. Auditor Payne submitted his findings a few days ago, and from his scheduling the real value of the property is returned as follows: Land, $42,823.90; buildings, $42,705.30; apparatus, $59,108.50; holders, $36,300; street mains, $167,030.60; lamp services, $5,950; lamp posts, $1,575; consumers' meters and connections, $18,623; working capital, $30,000; value of franchise rights and goodwill, $66,661; total, $470,777.30. The Company stoutly maintained that the service pipes to consumers' premises should have been placed in the valuation, seeing that the District Commissioners had, in valuing the Company's property for purposes of assessment on taxation account, assessed these services at $89,396. The Auditor in considering this matter declared that the ownership of the services was in the individual property holder who had paid for the entire cost of labor and material employed in the installation, that the services were attached to his property and could not be touched by the Company without his permission. Further, the Company did not own or claim one foot of the land through which the pipes are laid. The Company altogether made 8 exceptions to the findings in respect of the valuations, with the net result that the valuation should have been returned at $600,000, plus the service value.

THE AMERICAN GAS LIGHT JOURNAL

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NOTIFICATION RESPECTING ADVERTISING.

Orders for new advertising, or for changes in standing advertisements, to insure attention in the issue following their reception, must be in hand any time of Wednesday.

AGENTS:

New York—American News Co., 39 and 41 Chambers St.
Germany—Lemcke & Buechner, of New York.
England—Aug. Siegle, 30 Lime Street, London.

MONDAY, NOVEMBER 11, 1907.

The Market for Gas Securities.

Well, the light of reason seems returning. The Consolidated Gas Company has again demonstrated its ability to earn 4 per cent. per annum on its shares, even with gas at 80 cents per 1,000; for has it not declared a regular quarterly dividend of 1 per cent.? Surely Consolidated at 80, which was the asking price, last week, was a ridiculously low one. Some of the "odd lotters" seem to have become imbued with the like belief, for on this "smash" over 1,200 shares have been taken out of the market for transfer, in "blocks of 5" and under, at 100. The stock sold to-day (Friday) at noon, at 89, and 88¾ was bid.

Meantime Brooklyn Union was very weak. Peoples, of Chicago, is still flaunted in the eyes of investors at 75. If it isn't worth par it is not worth anything. Naturally, slow moving folks are picking up gas bonds, "for cash," at figures usually 20 points under anything like fair value.

Gas Stocks.

Quotations by George W. Close, Broker and Dealer in Gas Stocks.

16 WALL STREET, NEW YORK CITY.

NOVEMBER 11.

☞ All communications will receive particular attention.

☞ The following quotations are based on the par value of $100 per share.

N. Y. City Companies.	*Capital.*	*Par.*	*Bid.*	*Asked.*
Consolidated	$78,177,000	100	88¾	89
Central Union Gas Co.—				
1st 5's, due 1972, J. & J.	3,000,000	1,000	92	97
Equitable Gas Light Co.—				
Con. 5's, due 1932, M. & S.	1,000,000	1,000	..	105
Mutual	3,500,000	100	..	170
New Amsterdam Gas Co.—				
1st Con. 5's, due 1948, J. & J.	11,000,000	1,000	75	80
New York & Richmond Gas				
Co. (Staten Island)	1,500,000	100	37	43
1st Mtg. Gold Bds. 5 p.ct.	1,000,000	..	98	104
Northern Union—				
1st 5's, due 1927, J. & J.	1,250,000	1,000	90	96
New York and East River—				
1st 5's, due 1944, J. & J.	3,500,000	1,000	100	105
Con. 5's, due 1945, J. & J.	1,500,000	..	97	101
Standard	5,000,000	100	70	100
Preferred	5,000,000	100	100	125
1st Mtg. 5's, due 1930, M. & N	1,500,000	1,000	100	105
The Brooklyn Union	15,000,000	1,000	75	82
1st Con. 5's, due 1948, M. & N	15,000,000	..	..	102
Yonkers	299,550	500	110	..
Out-of-Town Companies.				
Bay State	50,000,000	50	¼	⅜
" Income Bonds	2,000,000	1,000	..	75
Binghamton Gas Works	450,000	100	..	65
" 1st Mtg. 5's	509,000	1,000	95	100
Boston United Gas Co.—				
1st Series S. F. Trust	7,000,000	1,000	82	85
2d " " "	3,000,000	1,000	47½	50
Buffalo City Gas Co.	5,500,000	100	5	8
" " Bonds, 5's	5,250,000	1,000	63	66
Capital, Sacramento	500,000	50	..	35
Bonds (6's)	150,000	1,000	..	..
Chicago Gas Co. Guaranteed Gold Bonds	7,550,000	1,000	104	106¾
Cincinnati Gas and Electric Co.	29,500,000	100	93¾	94
Columbus (O.) Gas Co., 1st Mortgage Bonds	1,500,000	1,000	92	98
Columbus (O.) Gas Lt. & Heating Co	1,683,750	100	87	88
Preferred	3,026,500	100	107½	108
Consumers, Toronto	2,000,000	50	200	204
Consolidated, Baltimore	11,000,000	100	..	90
Mortgage, 6's	3,609,000	..	..	118
Chesapeake, 1st 6's	1,000,000	..	..	..
Equitable, 1st 6's	910,000	..	..	..
Consolidated, 1st 5's	1,490 000	..	..	112
Consolidated Gas Co. of N. J.	1,000,000	100	15	17
Con. Mtg. 5's	850,000	1,000	92	95
Bonds	75,000	..	..	100
Detroit City Gas Co	5,000,000	50	..	50
" Prior Lien 5's	4,618,000	1,000	..	98
Detroit Gas Co., 5's	381,000	1,000	75	80
" Inc. 5's	16,000	100	98½	100
Equitable Gas & Fuel Co., Chicago, Bonds	2,000,000	1,000	..	101
Essex and Hudson Gas Co.	6,500,000	..	19	40
Fort Wayne	2,000,000	..	..	..
" Bonds	2,000,000	..	55	..
Grand Rapids Gas Lt. Co. 1st Mtg. 5's	1,225,000	1,000	104½	105
Hartford	750,000	25	190	200
Hudson County Gas Co., of New Jersey	10,500,000	..	103	105
Bonds, 5's	10,500,000	..	101	102½
Indianapolis	2,000,000	..	60	70
" Bonds, 5's	2,550,000	..	104½	105
Jackson Gas Co	250,000	50	82	..
" 1st Mtg. 5's	290,000	1,000	97	100
Kansas City Gas Light Co., of Missouri	5,000,000	100	..	36
Bonds, 1st 5's	3,822,000	1,000	102	104
Laclede, St. Louis	10,000,000	100	..	100
Preferred	2,500,000	100	75	100
Bonds	10,000,000	1,000	104	104½
Lafayette Gas Co., Ind.	1,000,000	100	..	60
Bonds	1,000,000	1,000	60	65
Louisville	3,570,000	50	143	145
Madison Gas & Elec. Co.				
" 1st Mtg. 6's	350,000	1,000	106	108¾
" 6 per cent. scrip, due 1910	100,000	25	60	60½
Massachusetts Gas Companies of Boston	25,000,000	100	46	47
Preferred	25,000,000	100	79½	80
Montreal, Canada	2,000,000	100	218	218½
Nashville Gas Lt. Co.	1,000,000	100	110	..
Newark, N. J., Con. Gas Co.	6,000,000	..	56	58
Bonds, 6's	6,000,000	..	137	138
New Haven	2,000,000	25	200	..
Peoples G. Lt. & Coke Co., Chicago	25,000,000	100	74½	75
1st Mortgage	20,100,000	1,000	..	..
2d "	2,500,000	1,000	104	..
Rochester Gas & Elec. Co.	2,150,000	50	55	..
Preferred	2,150,000	50	118	..
Consolidated 5's	2,000,000	..	104½	105½
San Francisco, Cal.	15,800,000	00	..	..
St. Joseph Gas Co. 1st Mtg. 5's	751,000	1,000	92	..
St. Paul Gas Light Co	1,500,000	100	45	47
1st Mortgage 6's	650,000	1,000	118	116
Extension, 6's	500,000	1,000	112½	115
General Mortgage, 5's	2,455,000	1,000	96¼	..
Syracuse, N. Y.	1,975,000	100	50	55
Bonds	2,047 000	1,000	102	..
Washington, D. C	2,500,000	20	350	400
1st Mortgage 6's	600,000	..	..	..
Western, Milwaukee	4,000,000	..	..	..
Wilmington, Del.	600,000	50	200	..

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Do You Wish to Know

what size of pipe to use to convey any quantity of gas, any distance, with any loss of pressure and any initial or final pressure? Then use

Cox's Gas Flow Computer,

as it gives this information accurately at sight, without mental effort. No calculations needed. Saves time, money and mistakes.

Price, 6.5 x 8 inches, in cloth case, $2.50. For sale by

A. M. Callender & Co., 42 Pine St., N. Y.

STANDARD REDUCTION FACTORS for GASES,
By Helon Brooks MacFarland, B.S., M.M.E.
Price, $1.50. *For Sale by*
A. M. Callender & Co., 42 Pine St., New York City.

Estimates furnished for the erection of complete gas works or the extension and modernizing of old works. All work warranted. Both water gas and coal gas.
EMPIRE GAS IMPROVEMENT & CONSTRUCTION COMPANY,
1628-tf 49 Wall Street, New York.

WANTED,

Position as Superintendent or Manager of a Gas Works.

Have had experience in all branches, from comp lain man to manager. Can handle men successfully and get the work done cheaply. Best of references furnished. Will go anywhere. Moderate salary.
1692-1 Address, "W. R. A.," care this Journal.

Position Wanted.

A young man of experience with a large gas company wishes position of chemist for some company where there are opportunities of advancement. Can furnish best of references.
Address, "CHEMIST,"
1692-1 Care this Journal.

Position Wanted.

Young man, 27 years old and married, practically raised in gas business, wants position as superintendent or manager of gas company. At present employed as superintendent in town of 12,000, in West.
1692-3 Address, "X. V.," care this Journal.

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A successful gas and electric manager and engineer is open for a position in a city of not less than 25,000. All correspondence confidential. Can furnish best of references.
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Position as Manager or Superintendent of a Gas Company,

By a young man of practical experience in the manufacture and distribution of coal and water gas. Is familiar with gas works' construction and office systems. Can furnish references.
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Position Wanted.

The advertiser is desirous of obtaining a position as superintendent of the works and distribution divisions of a moderate sized gas plant. Will give full information as to age, experience and references, on application.
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SUPERINTENDENT WANTED,

To Take Charge of a Gas Plant in a City of 13,000.

Must be thorough and practical on all points of gas making and distribution.

Apply to
ST. CATHARINES GAS CO., LTD.,
1691-2 BOX 915, ST. CATHARINES, ONT.

WANTED, FOR WESTERN TERRITORY,

A Traveling Salesman for a Leading Line of Gas Stoves and Ranges already Established.

Must be thoroughly competent, of extended experience and good, established connections among gas companies. A permanent and good paying position to the right man. Address, giving age, experience and references,
"C. S. M.,"
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A Superintendent for Gas and Electric Plant,

Serving a town of 5,000 population in New York State. Give age, previous experience, and salary desired. Address,
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WANTED.

First-Class Coal Gas Stoker, at Once.

None but experienced need apply. Also furnish references.

Address, "CENTRAL NEW YORK."
1692-2 Care this Journal

WANTED,

Four Second-Hand Purifiers,

Size, 10 by 10 or 10 by 12. Address, stating price, "F. R. A,"
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FOR SALE.

Two No 8 Root Exhausters, direct connection with 9-inch by 12-inch Ver. N.Y.S. Co. engine, by pass on same bedplate; 20 inch connection.
Three No. 6 Root Blowers, direct connection with 9 inch by 12-inch Ver N.Y.S. Co. engine, on same bedplate; 20 inch connection.
Three P. W Mackenzie Exhausters, belt drive; 20 inch connection.
Ten 20-Inch Angle Gas Valves.
Two ¼-Inch Sheet Steel Riveted Tanks, 11 feet 6 inches long, 5 feet wide, 11 feet high.
100 Feet 20-Inch Steel Riveted Main.
Sixty B, H. & Co Self-Sealing Mouthpieces, 7-inch stand and bridge pipes.

This apparatus can be seen at any time at
BROOKLYN UNION GAS COMPANY,
1692-3 Nassau Works, 556 Kent av., Brooklyn, N. Y.

FOR SALE,

One 48-Inch Station Meter Complete.

It has not been connected since rebuilt 9 months ago by Helme & McIlhenny, Philadelphia, Pa. We refer you to them.

STANDARD GAS AND ELECTRIC CO.,
16-6-tf RALEIGH, N. C.

FOR SALE.

SECOND-HAND APPARATUS.

Owing to enlargement of plant, the undersigned have available for disposal the undermentioned equipment:

Two Roots' Blowers, direct connected to 35-horse power vertical engines on same bedplate; 20 inch connections.
Two Laidlaw (Glasgow) Vertical Gas Exhausters, direct connected to 20 horse power vertical engines on same bedplate; 14 inch connections.
One Dempster (Manchester) High Speed Rotary Gas Exhauster, direct connected to 30 horse power horizontal engine on same bedplate; 14-inch connections.

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300 PREPAYMENT METERS FOR SALE.

Will adapt them to any rate needed by purchaser. Nearly new and in first-class condition. Also, 100 ordinary, 3-light meters. Address, "BOX 144,"
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Utilize Your Gas Liquor.
NO EXTRA LABOR OR OPERATING EXPENSES.
IMPROVED AMMONIA CONCENTRATOR.
About 100 in use. Write to
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CITY OF MONTREAL,

CANADA.

TENDERS FOR GAS AND ELECTRICITY.

Sealed Tenders, endorsed.

1. "Tender for the supply of electrical energy for lighting, heating and industrial purposes," will be received by the Fire and Light Committee of the City of Montreal up to noon, Monday, the 16th day of December next (1907), at the office of the City Clerk, City Hall, for:

ELECTRICITY.

(A) The public lighting, by electricity, of the streets, parks, squares and other real estate belonging to or under the control of the City, from the expiry of the contracts now existing.

(B) The supply of electrical energy for lighting, heating and industrial purposes for the citizens.

GAS.

2. "Tender for the supply of gas for lighting, heating and industrial purposes," will be received by the Fire and Light Committee of the City of Montreal up to noon, Monday, the 16th day of December next (1907), at the office of the City Clerk, City Hall, for:

(A) The supply of gas, by burners, for the lighting of the streets, parks, squares and other real estate belonging to or under the control of the City, from the expiry of the contracts now existing.

(B) The supply of gas to citizens for lighting, heating and industrial purposes, per 1,000 cubic feet, from the expiry of the contracts now existing.

The Fire and Light Committee will not supply any specifications or form of tender; but it will give to the interested parties all information they may require.

The tenders shall be made separately for electricity and gas.

Each tender shall be accompanied by an accepted cheque, to the amount of fifty thousand dollars ($50,000), payable to the City of Montreal; such cheques shall be retained by the City as a guarantee of the good faith of the tenderers until the contract has been signed. The contract shall provide for the deposit of such sum as may be deemed sufficient by the Council to insure the due fulfillment thereof.

The tenders will be opened by the City Clerk, in the presence of the interested parties, at the first meeting of the Fire and Light Committee following the date of the expiry of the delay fixed for submitting such tenders.

The City Council reserves the right to reject all or any of the tenders and to accept, in whole or in part, any tender, as it may deem advisable in the interest of the City and of the citizens.

City Clerk's Office, City Hall,
Montreal, October 28th, 1907.

L. O. DAVID,
City Clerk.

GAS PROPERTIES FOR SALE.

TWO MODERN PLANTS SERVING THREE TOWNS OF 35,000 POPULATION AND LOCATED IN THE EASTERN STATES

FOR PARTICULARS, ADDRESS

"OWNERS,"
Care this Journal.

GAS AND ELECTRIC PROPERTIES BOUGHT AND SOLD.

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Compagnie pour la Fabrication des Compteurs et Materiel d'Usines a Gaz, Paris, France.

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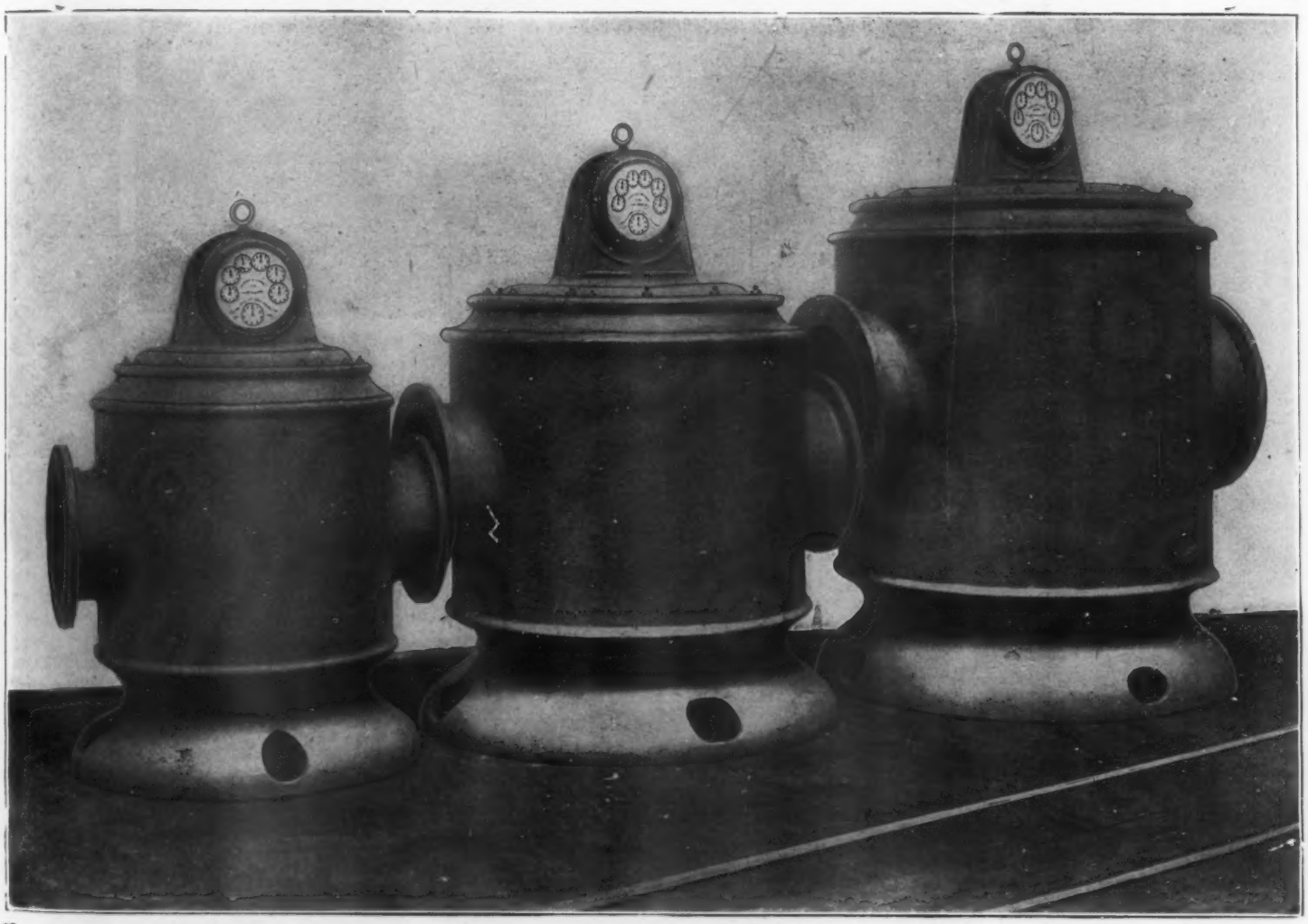
Now in use in the United States and Europe

MEASURING A DAILY MAKE OF MORE THAN 300,000,000 CUBIC FEET.

400 Installations to date with capacities from 500,000 Cubic Feet per Hour down to 5,000 Cubic Feet per Hour.



30,000 cu. ft. per hour.	45,000 cu. ft. per hour.	60,000 cu. ft. per hour.
12-inch connections.	16-inch connections.	20-inch connections.
40-inch face to face flanges.	52-inch face to face flanges.	58-inch face to face flanges.
50 inches floor to c. of dial.	61 inches floor to c. of dial.	70 inches floor to c. of dial.
FOR NORWICH, N. Y.	FOR EL PASO, TEXAS.	FOR CHESTER, PA.

The above engraving was reproduced from a photograph taken recently when these three meters were on the floor of our factory ready for shipment. Upwards of 50 Rotary Station Meters have at this date been installed or contracted for by gas companies located in 17 States of this country, and several in Canada.

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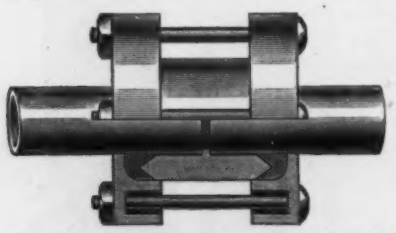
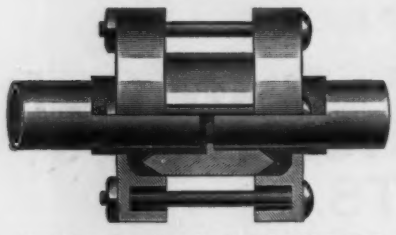
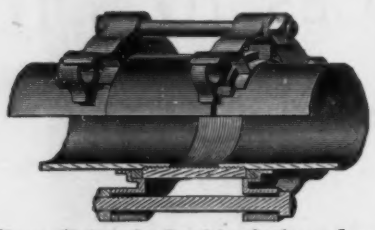

Regular Coupling, Style 1, for Plain End Wrought Iron Pipe.


Insulating Coupling, Style 5, for Plain End Wrought Iron Pipe.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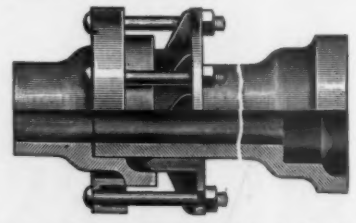
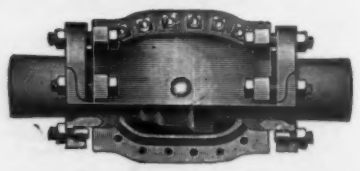
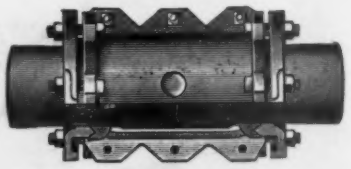
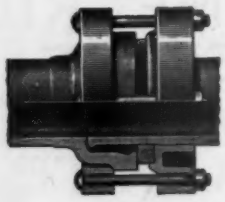

Coupling, Style 9, for Special Style Cast Iron Pipe.


Split Sleeve for Repairing Broken Bell on Cast Iron Pipe.


Split Sleeve for Repairing Broken or Cracked Cast Iron Pipe.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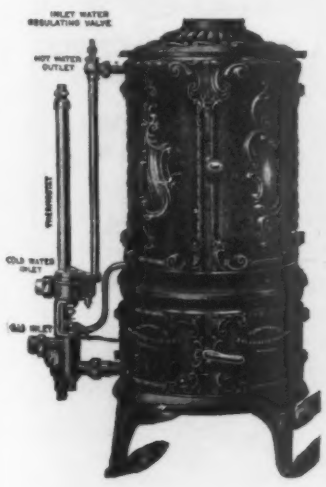

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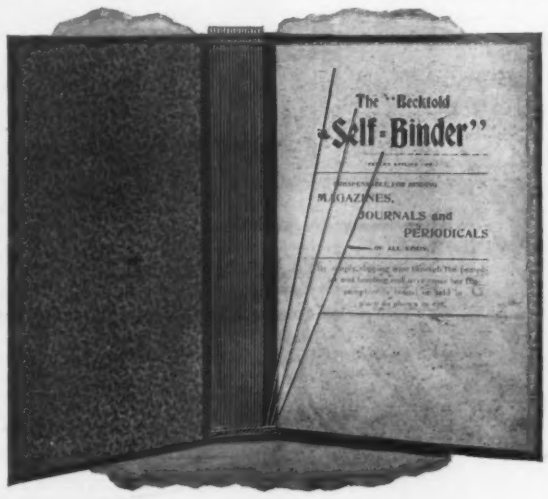

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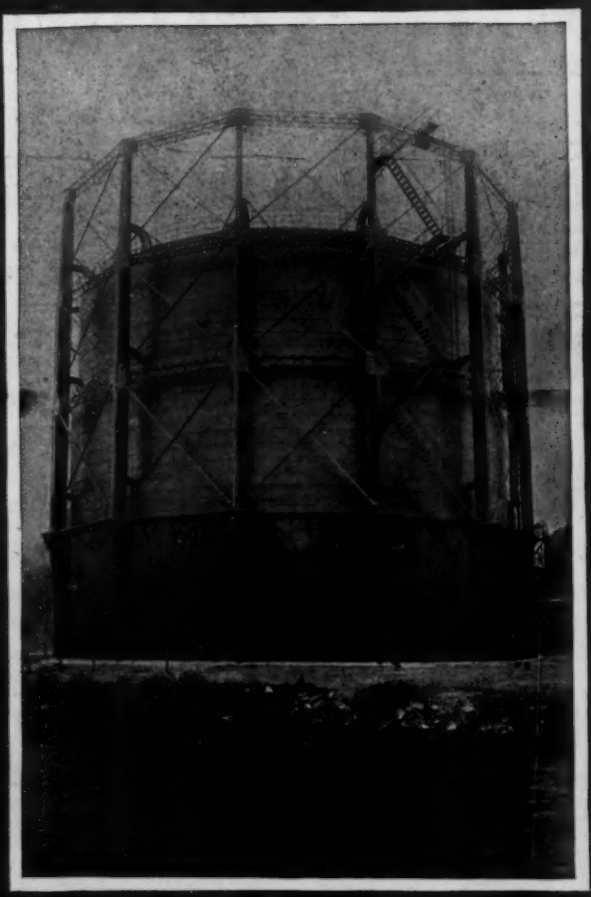

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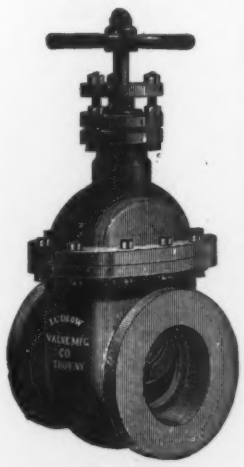

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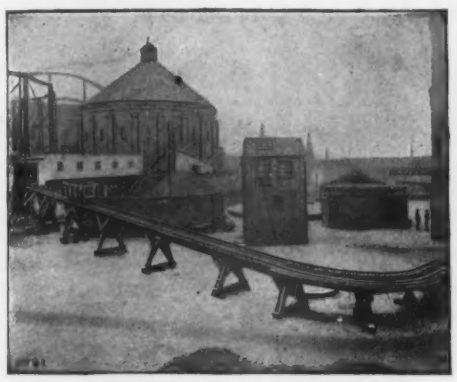

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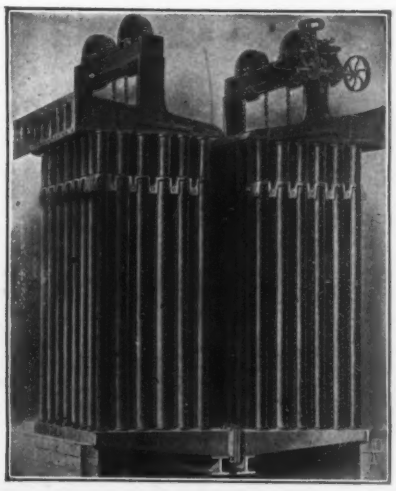

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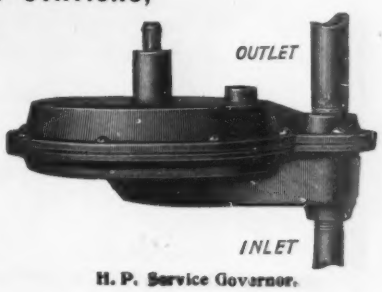

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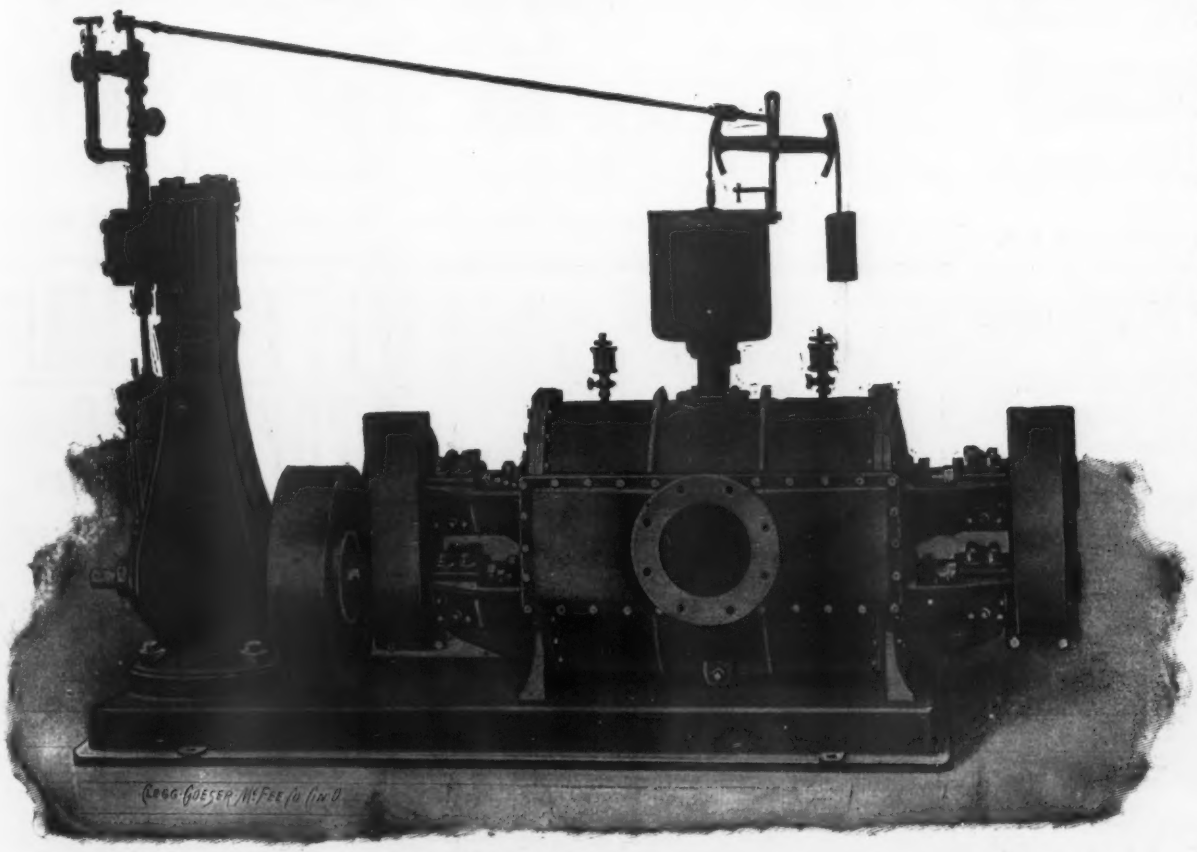

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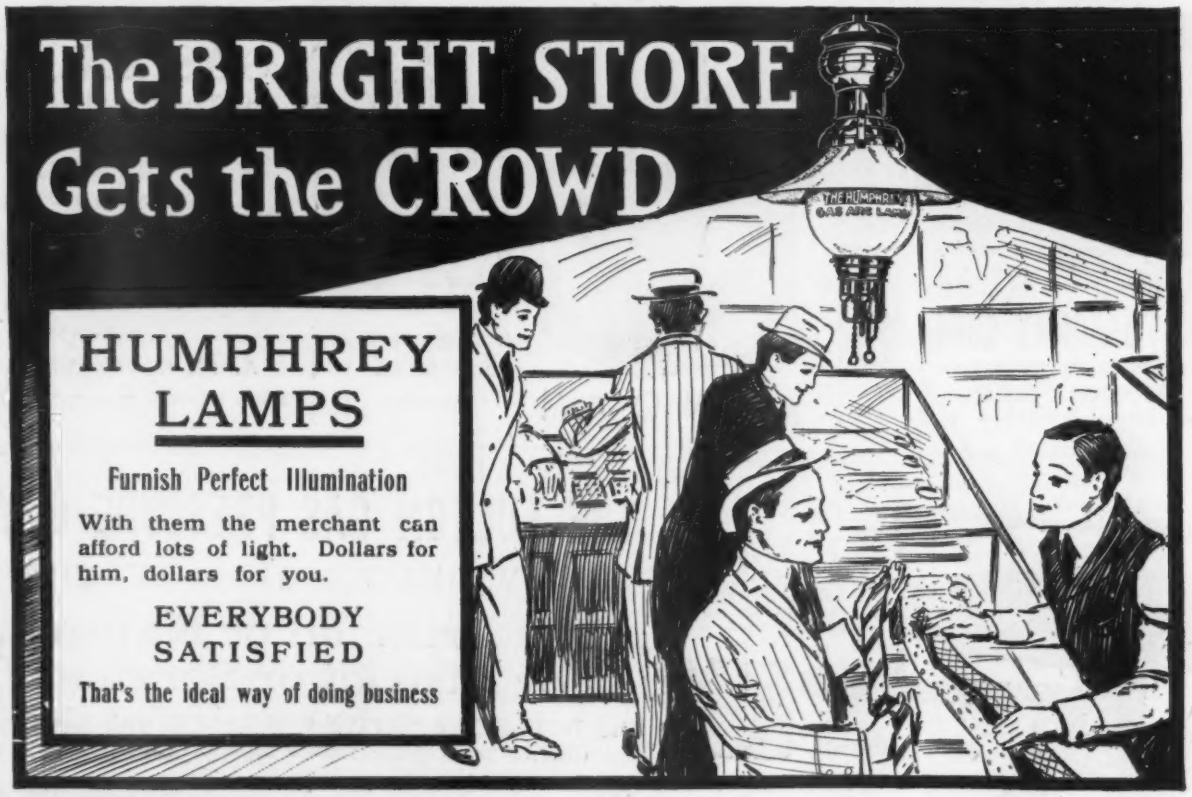

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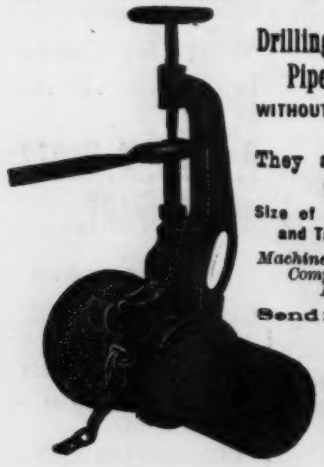

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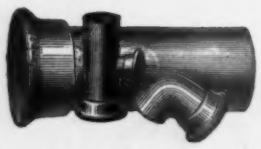

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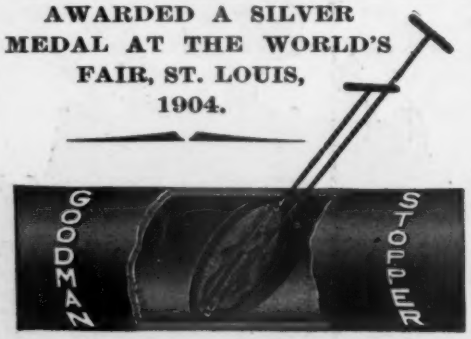

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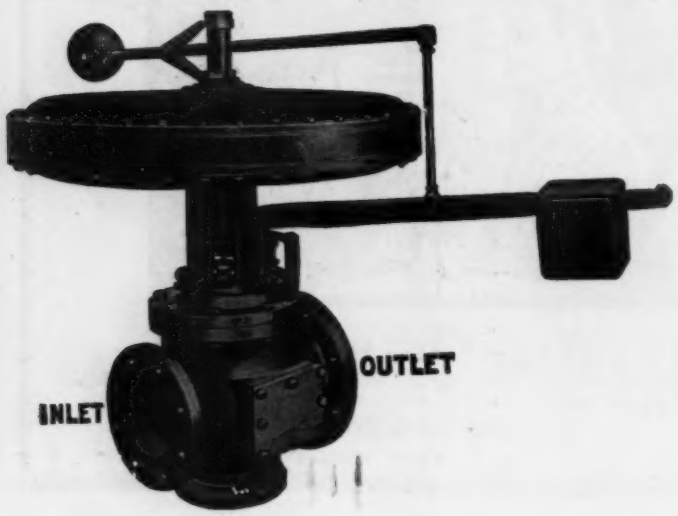

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Photometrical and Experimental Apparatus.

PUBLIC LIGHTING TABLE.

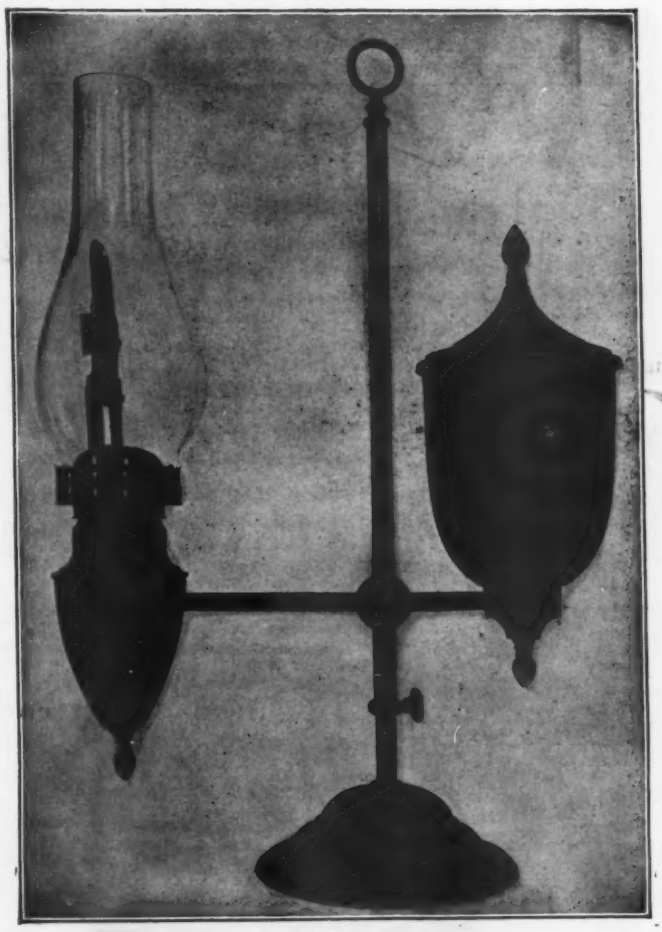
NOVEMBER, 1907.

Day of Week.	Date.	Table No. 1. FOLLOWING THE MOON. Light.	Extinguish.
Fri.	1	5.30 PM	3.40 AM
Sat.	2	5.30	5.30
Sun.	3	5.20	5.30
Mon.	4	5.20	5.30
Tue.	5	5.20 NM	5.30
Wed.	6	5.20	5.30
Thu.	7	5.20	5.30
Fri.	8	5.20	5.30
Sat.	9	5 20	5.30
Sun	10	8.20	5.40
Mon.	11	9.20	5.40
Tue.	12	10.30 FQ	5.40
Wed.	13	11.40	5.40
Thu.	14	12.50 AM	5.40
Fri.	15	2.00	5.40
Sat.	16	3.00	5.40
Sun.	17	4.10	5.50
Mon.	18	No L.	No L.
Tue.	19	No L. FM	No L.
Wed.	20	No L.	No L.
Thu.	21	5.10 PM	7.00 PM
Fri.	22	5.10	7.50
Sat.	23	5.10	8.40
Sun.	24	5.10	9.30
Mon.	25	5.10	10.20
Tue.	26	5.10	11.20
Wed.	27	5.10 LQ	12.20 AM
Thu.	28	5.10	1.20
Fri.	29	5.10	2.20
Sat.	30	5.10	3.30

TOTAL HOURS DURING 1907.

By Table No. 1.

	Hrs.Min.
January	211.10
February	193.40
March	182.10
April	167.00
May	157.00
June	145.30
July	151.50
August	162.30
September	175.30
October	202.40
November	209.30
December	231.50
Total, yr.	2190.20



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***

10-Candle Power.

***

This lamp is a perfect substitute for the 10-candle Pentane Lamp hitherto used, and has the following advantages:

1st. It uses Standard Kerosene Oil (Pratt's Astral Oil or equivalent).

2d. It is remarkably steady. Will burn 24 hours continuously with less than 2 per cent. variation.

3d. It is much less dangerous than Pentane, which is a kind of gasolene.

4th. It is not easily affected by air currents in the photometer room.

5th. Since the lamp may burn continuously, the candle power of gas may be taken at any moment, if necessary. This insures steady illuminating power without waste of carburetting material.

6th. The first cost of the lamp brings it within the reach of even small gas works.

7th. Costs much less to maintain than a Pentane lamp or sperm candles doing the same service.

8th. Is not affected by the weather.

PUBLIC LIGHTING TABLE.

NOVEMBER, 1907.

Day of Week.	Date.	Table No. 2. NEW YORK CITY. All Night Lighting. Light	Extinguish.
		P. M	A.M.
Fri.	1	4.45	5 35
Sat.	2	4.45	5 35
Sun.	3	4 45	5 35
Mon.	4	4 45	5.35
Tue.	5	4 40	5.45
Wed.	6	4.40	5.45
Thu.	7	4 40	5 45
Fri.	8	4 40	5.45
Sat.	9	4 40	5.45
Sun.	10	4 40	5.45
Mon.	11	4 40	5.45
Tue.	12	4 30	6.00
Wed.	13	4 30	6 00
Thu.	14	4.30	6.00
Fri.	15	4 30	6 00
Sat.	16	4 30	6.00
Sun.	17	4.30	6.00
Mon.	18	4.30	6.00
Tue.	19	4 25	6 00
Wed.	20	4 25	6.00
Thu.	21	4.25	6.00
Fri.	22	4 25	6.00
Sat.	23	4 25	6 00
Sun.	24	4 25	6.00
Mon.	25	4 25	6.00
Tue.	26	4.20	6.10
Wed.	27	4 20	6.10
Thu.	28	4 20	6.10
Fri.	29	4.20	6.10
Sat.	30	4.20	6.10

TOTAL HOURS DURING 1907.

By Table No. 2.

	Hrs.Min.
January	423.20
February	355.25
March	355.35
April	298.50
May	264.50
June	234.25
July	243.45
August	280 25
September	321.15
October	374.30
November	401.40
December	433.45
Total, yr.	3987.45

NEW YORK, 318 West 42d Street.
BOSTON, 820 Beacon Building.
PHILADELPHIA, Broad and Arch Streets.
ST. LOUIS, 712 Roe Building.
CHICAGO, 218 La Salle Street.
SAN FRANCISCO, 512 Oak Street.

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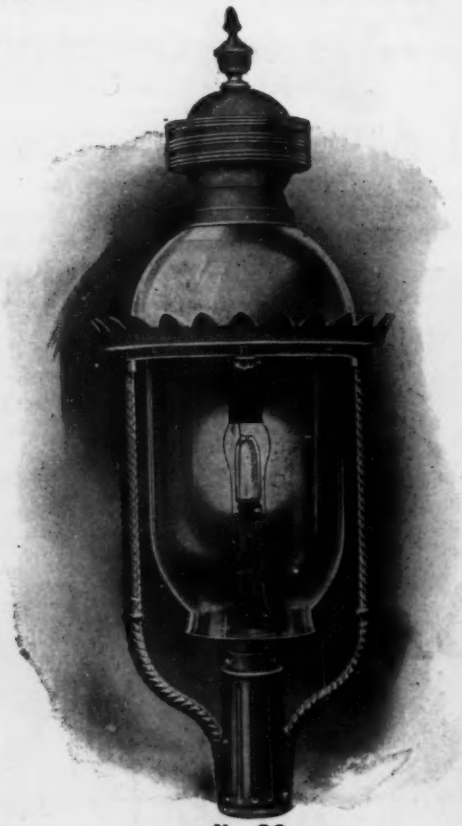
....OF AMERICA....



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Lowest Gas Consumption.
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Will Fit Any Fixture.
Will Not Flash Back.
Will Not Blacken Mantles.
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Will Not Discolor Ceilings.

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Rich Mellow Light.

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Bridgeport, Conn. (3d contract).	**Jacksonville, Fla.**	**Quebec, Canada.**
Suffolk, Va.	**Syracuse, N. Y.** (2d contract).	**Indianapolis, Ind.** (2d contract).
Winsted, Conn. (2d contract).	**Atlanta, Ga.** (3d contract).	**Bessemer, Ala.**
Nashua, N. H.	**Holyoke, Mass.**	**Waterbury, Conn.** (5th contract).
Augusta, Me. (2d contract).	**Peoria, Ills.**	**Sioux Falls, S. D.** (3d contract).
Everett, Mass.	**Schnectady, N. Y.** (2d contract).	**Philadelphia, Pa.**
Jenkintown, Pa. (2d contract).		

TOTAL SETS INSTALLED TO JULY 1, 1907, ... 34
TOTAL SETS TO DATE, ... 668
TOTAL DAILY CAPACITY, ... 541,655,000 cu. ft.

Tar Extractors for Carburetted Water Gas.
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Gas Analysis Apparatus.
Recording Gauges.
Straight Standpipe System for Coal Gas Retorts.
Straight Standpipe Cleaners.

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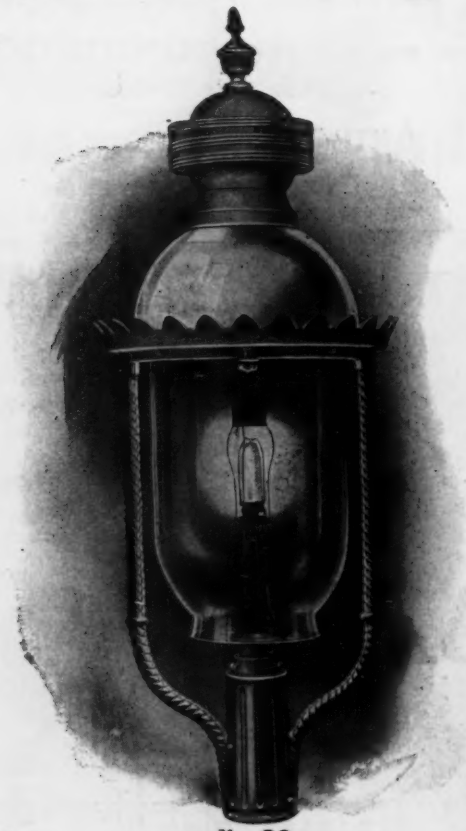

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Everett, Mass.
Jenkintown, Pa. (2d contract).
Coney Island, N. Y.
Mexico, Mo.
Jacksonville, Fla.
Syracuse, N. Y. (2d contract).
Atlanta, Ga. (3d contract).
Holyoke, Mass.
Peoria, Ills.
Schnectady, N. Y. (2d contract).
Danbury, Conn.
Galveston, Tex. (2d contract).
Quebec, Canada.
Indianapolis, Ind. (2d contract).
Bessemer, Ala.
Waterbury, Conn. (5th contract).
Sioux Falls, S. D. (3d contract).
Philadelphia, Pa.

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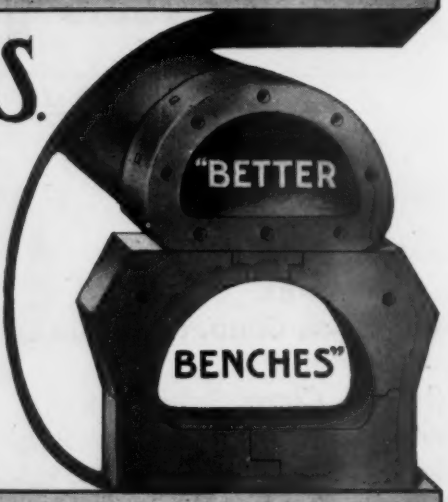

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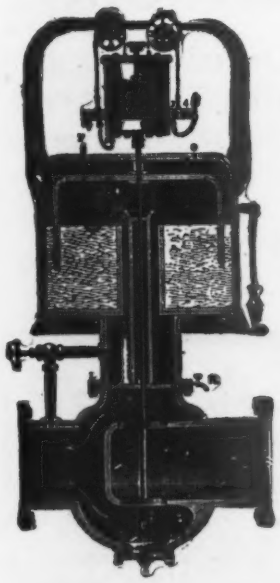

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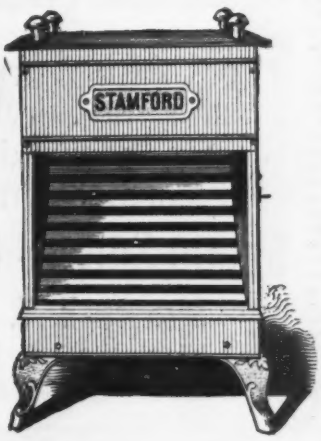

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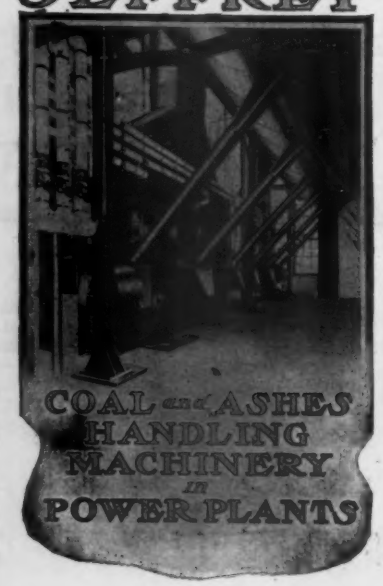

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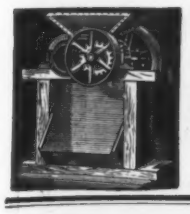

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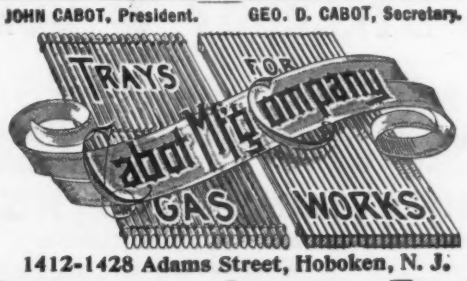

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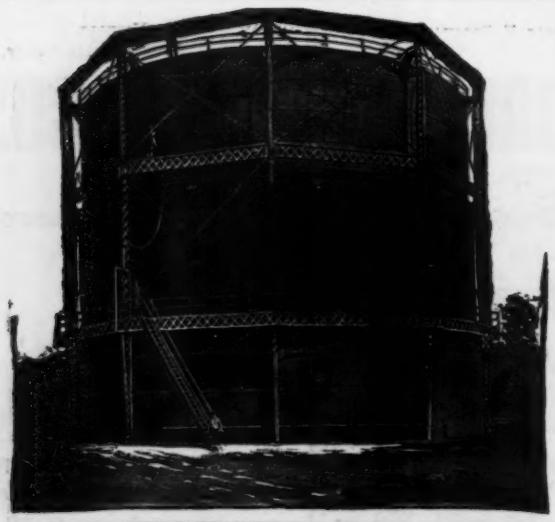

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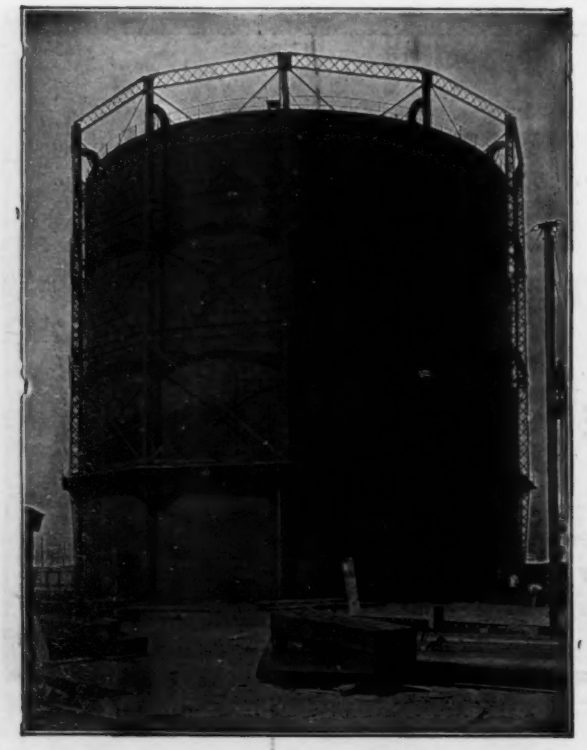

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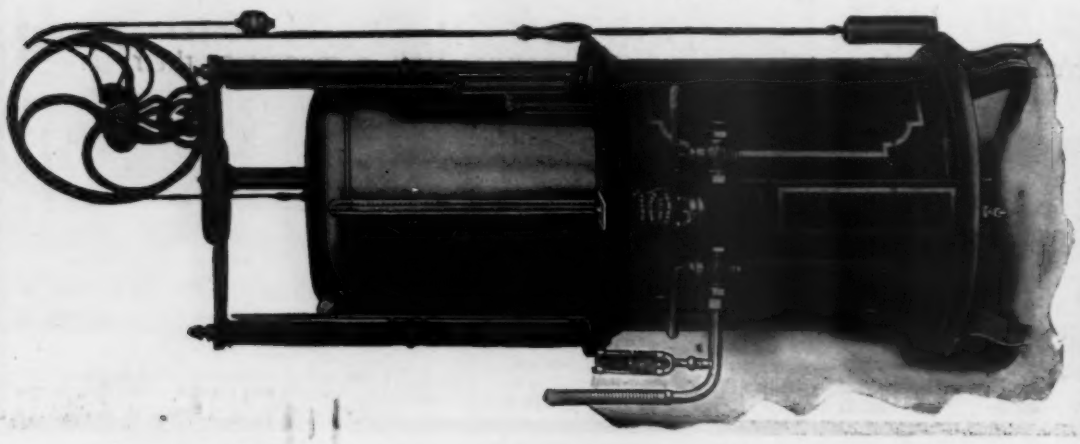

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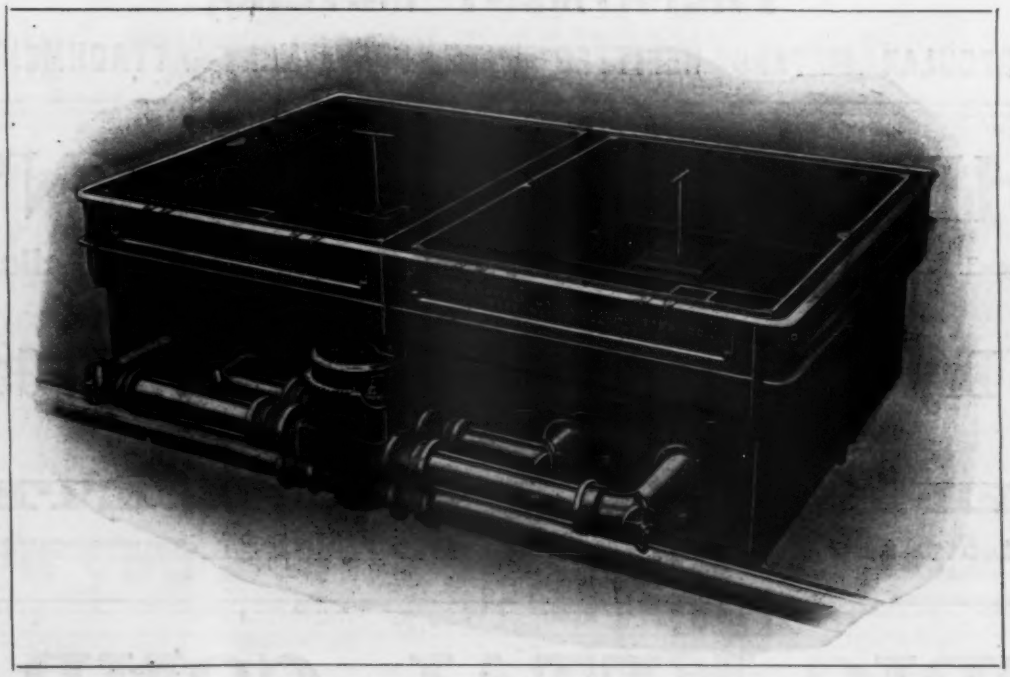

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